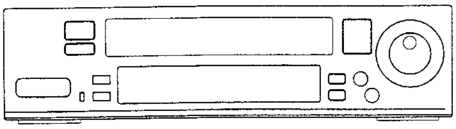
aiwa

aiwa
SERVICE

HV-FX4000
HV-FX4800



VIDEO CASSETTE RECORDER

- BASIC VIDEO MECHANISM: TN–6500P4LRH111S
- TYPE: AE,Z

SERVICE MANUAL

- If requiring information about the mechanism, see Service Manual of TN–6500, S/M Code No.09-967-146-70T

S/M Code No. 09-977-194-6FP

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SPECIFICATIONS

Video Recording system	Rotary 2 head helical scanning system
Video head	Double azimuth 4 head
Video signal	PAL color signal, 625 lines, 50 fields
Recording/playback time	PAL SP : 4 hours 20 minutes max. with E-260 tape LP : 8 hours 40 minutes max. with E-260 tape NTSC SP : 3 hours max. with T-180 tape LP : 6 hours max. with T-180 tape EP : 9 hours max. with T-180 tape
Fast forward/rewind time	Approx. 3 min. with E-180 tape
Tape speed	PAL SP : 23.39 mm/sec. LP : 11.69 mm/sec. NTSC SP : 33.35 mm/sec. (PB only) LP : 16.67 mm/sec. (PB only) EP : 11.12 mm/sec. (PB only)
Usable cassettes	VHS-PAL video cassettes
Channel coverage	VL (VHF-Low) : E2-4, S1-S10 VH (VHF-High) : E5-12, S11-S41 UHF : 21-69
RF output	UHF channel between 30 or 39
RF output level	73 dBμ, 75 ohms
Video input level	0.5 - 2.0 Vp-p, 75 ohms, unbalanced
Video output level	1.0 Vp-p, 75 ohms, unbalanced
Horizontal resolution	240 lines (nominal)
Video S/N	43 dB (nominal)
Audio track	3 tracks (Hi-Fi sound 2 tracks, normal sound 1 track)
Hi-Fi Frequency response	20Hz – 20kHz
Hi-Fi Dynamic range	More than 90dB
Hi-Fi Wow and Flutter	Less than 0.01% (nominal)
Audio input level	SCART : – 8 dBs, 22 kohms RCA : – 8 dBs, 22 kohms
Audio output level	SCART : – 8 dBs, less than 2.2 kohms RCA : – 8 dBs, less than 2.2 kohms
Operating temperature	5° C – 40° C
Power requirements	230V AC, 50Hz
Power consumption	AE : 29 watts Z : 32 watts
Dimensions	380 (W) x 99 (H) x 293 (D) mm (15 x 4 x $11^{5}/_{8}$ in.)
Weight	Approx. 5 kg (11 lbs.)

- Design and specifications are subject to change without notice.

ACCESSORIES/PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-JU1-905-010		IB,FX4800Z (EG)-M<Z>
1	87-JU1-906-010		IB,FX4800AE (EI)-M<AE>
2	87-JU1-672-010		RC UNIT,RC-7VR08<Z>
2	87-JU1-671-010		RC UNIT,RC-7VR07<AE>
3	87-B30-106-010		CORD,RF PAL/UJ0502
⚠ 4	87-050-076-010		AC CORD SET ASSY,E
5	87-A80-032-010		CORD,PIN 2P RED-WHT

DISASSEMBLY INSTRUCTIONS

1. "CABINET, STEEL" Removal
   1) Remove five screws and the "CABINET STEEL".

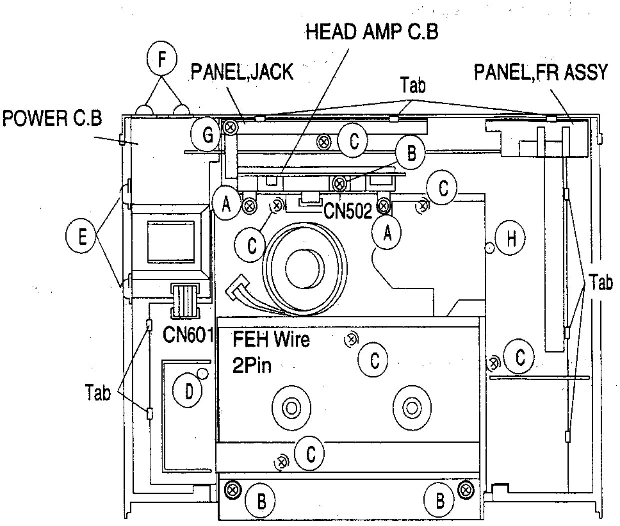

HEAD AMP C.B
F
PANEL,JACK
Tab
PANEL,FR ASSY
POWER C.B
G
C
B
C
A
CN502
A
E
C
H
Tab
CN601
FEH Wire
2Pin
C
C
Tab
D
C
B
B

Figure-1

2. "PANEL, FRONT" Removal
   1) Release seven tabs and remove the "PANEL, FRONT".

3. "FRONT C.B" Removal
   1) Release tab and remove the "FRONT C.B".

4. "MECHANISM" Removal (See Figure-1)
   1) Remove screw(Ⓖ).
   2) Remove two screws (Ⓐ).
   3) Disconnect connector CN502 the "HEAD AMP C.B.
   4) Disconnect wire 2Pin on the "FEH".
   5) Remove bottom side screw (Ⓓ).
   6) Remove bottom side screw (Ⓗ).
   7) Remove three mechanism screws (Ⓑ).

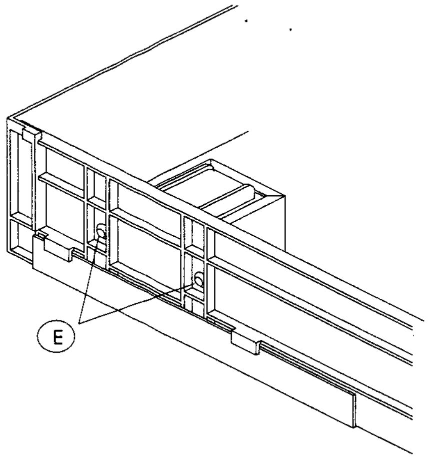


Figure-2

5 "MAIN C.B"Rmoval (See Figure-1)
   1) Disconnect connector CN601 the "MAIN C.B".
   2) Remove six screws (Ⓒ).
   3) Release two tabs of the "PANEL,JACK" and lift then.
   4) Release tab of the "PANEL, RF ASSY" and lift them.
   5) Release five tabs of the "MAIN C.B" and lift them.

6) "POWER C.B" Removal (See Figure-1, Figure-2, Figure-3)
   1) Remove two screws (Ⓔ).
   2) Remove two screws (Ⓕ).

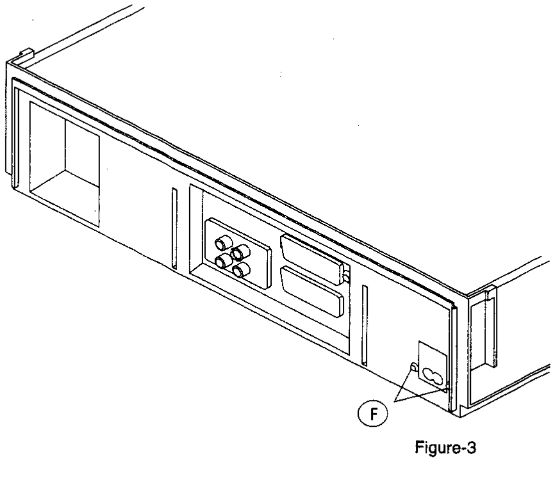


Figure-3

Servicing Position

Main C.B Adjustment

1. Remove the mechanism, Main C.B, Front C.B and Power C.B from the cabinet.
2. Adjust the Main C.B in this state (See Figure 1).
3. Turn over the cabinet and reinstall the mechanism and Main C.B. Before reinstalling, tighten them with the two screws so that they are closely in contact with each other. (Use fiber washers so as not to damage the pattern.)
4. Reinstall the Power C.B and Front C.B.
5. Make sure that the connectors, etc. are securely connected.

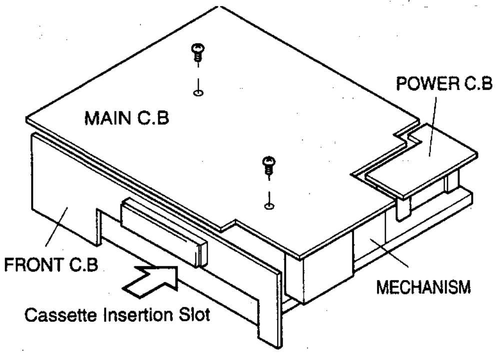

MAIN C.B
POWER C.B
FRONT C.B
MECHANISM
Cassette Insertion Slot

Figure-1

VCR TEST TAPE INTERCHANGEABILITY TABLE

新しいタイプのテストテープは、CH-1（NTSC用）とCH-2（PAL用）の2種類があります。それぞれのテープには、(1) ～ (4) で区別する4種類の信号が、次の順番と時間で記録されています。
There are two types of the new allgnment tape CH-1B (for NTSC) and CH-2 (for PAL). On each tape four signals (1) - (4) are recorded for the times and in the order shown below.

(1) : 8min. → (2) : 2min. → (3) : 5min. → (4) : 5min.

TTV-MP1（M-PAL用）,TTV-MS1（MESECAM用）,TTV-S1（SECAM用）については現行通りです。
The TTV-MP1 (for M-PAL) ,TTV-MS1 (for MESECAM) and TTV-S1 (for SECAM) allgnment tapes have the same contents as the previous tapes.

方式 Method	現行タイプ Now in use TYPE		新タイプ New Type		主な用途 Application
	テープ名 Model	記録内容 ※1 Contents ※1	テープ名 Model	記録内容 ※1 Contents ※1	
NTSC	TTV-N1	NTSC,Color, 1kHz,SP	CH-1B(1)	NTSC,Stairsteps, 1kHz,SP	PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 PB-Y Level/General electrical ADJ.Head ACE Height/Tilt ADJ.
	TTV-N1E	NTSC,Color, 1kHz,EP	CH-1B(4) ※2	NTSC,Color,1kHz, EP	ｽｲｯﾁﾝｸﾞ位置調整。 Switching position ADJ.
	TTV-N2	NTSC,Stairsteps, 7kHz,SP	CH-1B(2)	NTSC,Stairsteps, 7kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。ｽｰﾊﾟｰｸﾘｱｰﾋﾟｸﾁｬｰのﾚﾍﾞﾙ調整。 Head ACE Azimuth ADJ.
	TTV-N12 (SCV-1998)	NTSC,Color, 1kHz,SP	CH-1B(4)	NTSC,Color,1kHz, EP	FMｴﾝﾍﾞﾛｰﾌﾟ調整。Xﾊﾞﾘｭｰ(位相)調整。 FM Envelope ADJ. X-Value ADJ.
	TTV-N7A	NTSC,Stairsteps, 1kHz,SP,HiFi400Hz	CH-1B(3)	NTSC,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
PAL	TTV-P1	PAL,Color, 1kHz,SP	CH-2(2) ※3	PAL,Stairsteps, 1kHz,SP	ｽｲｯﾁﾝｸﾞ位置調整。(SP専用ﾓﾃﾞﾙ)PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 Switching position ADJ. PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-P1L	PAL,Color, 1kHz,LP	CH-2(4)	PAL,Color,1kHz, LP	ｽｲｯﾁﾝｸﾞ位置調整。(LP対応ﾓﾃﾞﾙ)FMｴﾝﾍﾞﾛｰﾌﾟ調整。(LP対応ﾓﾃﾞﾙ)　Xﾊﾞﾘｭｰ(位相)調整。(LP対応ﾓﾃﾞﾙ) Switching position.(LP Model)FM Envelope ADJ. (LP Model)X-Value ADJ.(LP Model)
	TTV-P2	PAL,Stairsteps, 6kHz,SP	CH-2(1)	PAL,Stairsteps, 6kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。FMｴﾝﾍﾞﾛｰﾌﾟ調整。(SP専用ﾓﾃﾞﾙ) Xﾊﾞﾘｭｰ(位相)調整。(SP専用ﾓﾃﾞﾙ) Head ACE Azimuth ADJ. FM Envelope ADJ.(SP Model) X-Value ADJ.(SP Model)
	TTV-P7	PAL,Stairsteps, 1kHz,SP,HiFi 1kHz	CH-2(3)	PAL,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
	TTV-P16	PAL,Color, 400Hz,SP,HiFi 1kHz	変更なし No Changed.		FMﾌｨﾙﾀｰ調整 FM Filter ADJ.

※ 1. ｶﾗｰ方式→映像信号→ﾉｰﾏﾙ音声→ﾃｰﾌﾟｽﾋﾟｰﾄﾞ→HiFi音声の順で記載されています。
※ 1. Described in the order of color format. video signal. linear audio. tape speed and Hi-Fi audio.
※ 2. SP専用ﾓﾃﾞﾙの場合は、CH-1Bの (1) ～ (3) を使用して下さい。
※ 2.Use CH-1B (1) - (3) with models used exclusively in the SP mode.
※ 3. 色信号の観測が必要な場合はCH-2の (3) または (4) を使用して下さい。
※ 3.Use CH-2 (3) and (4) when it is necessary to observe the chroma signal.

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-017-833-010		C-IC,NJM2233BM<Z>
	87-A20-522-010		IC,MM1124AD
	87-A20-515-010		IC,AN5285K(A)
	87-JU1-652-010		C-IC,CXP88860-112Q
	87-017-506-080		C-IC,PST600JMT
	87-A20-243-040		C-IC,ST24C04M6TR
	87-002-427-010		IC,BA6209N
	87-A20-562-010		IC,SDA5650P-DIP-14<Z>
	87-A20-216-110		C-IC,HA118201CF
	87-A20-575-040		C-IC,MSM7470-79MS
	87-JU1-650-040		C-IC,LC74763M-9655-TLM
	87-A20-177-010		IC,BA7184S
	87-A20-092-010		IC,LA7256
	87-002-862-010		IC,NJM2904L
	87-A20-364-010		IC,KIA7809PI
	87-A20-266-010		IC,BA7630S
	87-A20-179-010		IC,TDA9614H
	87-001-854-010		IC,BA7755A
	87-A20-056-010		IC,BA3880S
	87-A20-526-010		C-IC,BU2879AK
	87-070-083-010		IC,GP1U281X
	87-070-289-040		C-IC,BU2092F<Z>
	87-A20-282-010		IC,TDA9840
	87-A20-304-010		IC,TA8721ASN
TRANSISTOR			
	87-026-211-080		C-TR,DTA144EK
	87-026-210-080		C-TR,DTC144EK
	89-110-372-080		C-TR,2SA1037K(R)
	89-324-122-080		C-TR,2SC2412KR
	89-109-521-080		TR,2SA952K
	89-112-965-080		TR,2SA1296GR
	87-A30-032-010		TR,2SD2394
	89-318-155-080		TR,2SC1815GR
	89-215-652-010		TR,2SB1565E
	89-212-370-080		TR,2SB1237 TV2
	87-026-213-080		C-TR,DTC114YK
	87-A30-099-080		TR,2SC3708S/T
	89-111-625-080		C-TR,2SA1162GR
	89-110-155-080		TR,2SA1015GR
DIODE			
	87-070-345-080		DIODE,1N4148
	87-017-097-080		ZENER,HZS6B1
	87-017-079-080		ZENER,HZS4A3
	87-017-125-080		ZENER,HZS11B2
	87-070-274-080		DIODE,1N4003 SEM
	87-020-465-080		DIODE,1SS133
	87-017-495-080		DIODE,1N5393
	87-017-415-090		DIODE,RL203
	87-017-135-080		ZENER,HZS12B3
	87-027-400-080		ZENER,HZ5C3
	87-A40-145-080		ZENER,BZX55/C7V5
	87-001-239-080		ZENER,HZ30-2
	87-017-519-080		ZENER,HZT-33
	87-017-092-080		ZENER,HZS5C2
	87-027-393-080		ZENER,HZ4C2
	87-A40-394-080		DIODE,11EQS03L-TA2B5
MAIN C.B			
C101	87-010-311-080		C-CAP,S 12P-50 J CH
C102	87-010-311-080		C-CAP,S 12P-50 J CH
C103	87-012-141-080		C-CAP,S 0.22-16 Z F
C104	87-010-197-080		C-CAP,S 0.01-25 K B
C105	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C106	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C108	87-015-696-080		CAP,E 2.2-50 M 7L SRA
C109	87-010-187-080		C-CAP,S 5600P-50 K B
C110	87-015-681-080		CAP,E 10-16 M 7L SRA
C111	87-015-681-080		CAP,E 10-16 M 7L SRA
C112	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C113	87-015-681-080		CAP,E 10-16 M 7L SRA
C114	87-010-079-080		CAP,E 100-6.3 M 5L SRE
C115	87-010-264-080		CAP,E 100-10 M 5L SRE
C116	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C117	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C118	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C119	87-012-159-080		C-CAP,S 24P-50 J CH GRM
C120	87-012-159-080		C-CAP,S 24P-50 J CH GRM
C121	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C122	87-010-263-080		CAP,E 100-10 SME
C123	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C124	87-010-178-080		C-CAP,S 1000P-50 K B
C125	87-010-372-080		CAP,E 2200-6.3 M SME
C129	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C130	87-015-676-080		CAP,E 47-6.3 M 7L SRA
C131	87-010-178-080		C-CAP,S 1000P-50 K B
C132	87-010-178-080		C-CAP,S 1000P-50 K B
C133	87-015-674-080		CAP,E 22-6.3 M 7L SRA
C135	87-010-197-080		C-CAP,S 0.01-25 K B
C137	87-010-197-080		C-CAP,S 0.01-25 K B
C139	87-010-197-080		C-CAP,S 0.01-25 K B
C140	87-010-805-080		C-CAP,S 1-16 Z F
C143	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C144	87-010-374-080		CAP,E 47-10 M SME
C147	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C148	87-015-674-080		CAP,E 22-6.3 M 7L SRA
C149	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C151	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C152	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C153	87-015-684-080		CAP,E 47-16 M 7L SRA
C154	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C157	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C158	87-010-197-080		C-CAP,S 0.01-25 K B
C163	87-015-687-080		CAP,E 33-25 M 7L SRA
C164	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C165	87-015-687-080		CAP,E 33-25 M 7L SRA
C166	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C167	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C168	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C169	87-010-197-080		C-CAP,S 0.01-25 K B
C170	87-012-365-080		C-CAP,S 0.027-25 K B
C171	87-010-498-080		CAP,E 10-16 M 5L SRE
C172	87-010-498-080		CAP,E 10-16 M 5L SRE
C173	87-015-681-080		CAP,E 10-16 M 7L SRA
C180	87-010-384-080		CAP,E 100-25 M SME
C181	87-010-393-080		CAP,E 100-35 M SME
C182	87-015-684-080		CAP,E 47-16 M 7L SRA
C281	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<Z>
C282	87-010-550-080		CAP,E 100-6.3 5L SRE<Z>
C283	87-010-805-080		C-CAP,S 1-16 Z F<Z>
C284	87-012-154-080		C-CAP,S 150P-50 J CH GRM<Z>
C286	87-010-193-080		C-CAP,S 0.033-25 Z F C2012<Z>
C287	87-010-182-080		C-CAP,S 2200P-50 K B<Z>
C302	87-010-197-080		C-CAP,S 0.01-25 K B
C304	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C305	87-010-145-080		C-CAP,S 1P-50 CH
C306	87-010-073-080		CAP,E 3.3-50 M 5L SRE
C307	87-012-153-080		C-CAP,S 120P-50 J CH GRM
C308	87-010-316-080		C-CAP,S 33P-50 J CH
C309	87-010-382-080		CAP,E 22-25 SME
C311	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C312	87-016-369-080		C-CAP,S 0.033-25 K B
C313	87-010-180-080		C-CAP,S 1500P-50 K B
C314	87-015-694-080		CAP,E 0.47-50 M 7L SRA

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C315	87-010-312-080		C-CAP,S 15P-50 J CH
C316	87-010-146-080		C-CAP,S 2P-50 C CH GRM
C317	87-010-198-080		C-CAP,S 0.022-25 K B
C318	87-015-694-080		CAP,E 0.47-50 M 7L SRA
C319	87-010-197-080		C-CAP,S 0.01-25 K B
C321	87-010-197-080		C-CAP,S 0.01-25 K B
C322	87-015-681-080		CAP,E 10-16 M 7L SRA
C323	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C324	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C325	87-015-692-080		CAP,E 0.22-50 M 7L SRA
C326	87-010-405-080		CAP,E 10-50 M SME
C327	87-015-694-080		CAP,E 0.47-50 M 7L SRA
C328	87-015-681-080		CAP,E 10-16M 7L SRA
C329	87-015-696-080		CAP,E 2.2-50 M 7L SRA
C330	87-015-697-080		CAP,E 3.3-50 M 7L SRA
C331	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C332	87-010-319-080		C-CAP,S 56P-50 J CH
C333	87-010-312-080		C-CAP,S 15P-50 J CH
C334	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C335	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C336	87-015-697-080		CAP,E 3.3-50 M 7L SRA
C337	87-010-198-080		C-CAP,S 0.022-25 K B
C338	87-010-197-080		C-CAP,S 0.01-25 K B
C339	87-010-318-080		C-CAP,S 47P-50 J CH
C340	87-015-694-080		CAP,E 0.47-50 M 7L SRA
C342	87-010-068-080		CAP,E 0.22-50 M 5L SRE
C344	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C346	87-010-071-080		CAP,E 1-50 M 5L SRE
C347	87-018-205-080		CAP,TC U 0.022-25 Z F TP
C348	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C349	87-010-079-080		CAP,E 100-6.3 M 5L SRE
C350	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C351	87-012-155-080		C-CAP,S 180P-50 J CH GRM
C352	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C353	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C354	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C355	87-010-178-080		C-CAP,S 1000P-50 K B
C356	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C357	87-010-148-080		C-CAP,S 4P-50 CH
C358	87-010-314-080		C-CAP,S 22P-50 J CH
C359	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C360	87-010-374-080		CAP,E 47-10 M SME
C361	87-010-197-080		C-CAP,S 0.01-25 K B
C362	87-010-198-080		C-CAP,S 0.022-25 K B
C363	87-010-263-080		CAP,E 100-10 SME
C364	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C365	87-010-197-080		C-CAP,S 0.01-25 K B
C367	87-010-318-080		C-CAP,S 47P-50 J CH
C368	87-010-318-080		C-CAP,S 47P-50 J CH
C370	87-010-316-080		C-CAP,S 33P-50 J CH
C372	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C374	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C377	87-010-320-080		C-CAP,S 68P-50 J CH
C378	87-010-197-080		C-CAP,S 0.01-25 K B
C379	87-010-197-080		C-CAP,S 0.01-25 K B
C383	87-010-181-080		C-CAP,S 1800P-50 K B
C384	87-010-311-080		C-CAP,S 12P-50 J CH
C385	87-010-315-080		C-CAP,S 27P-50 J CH
C386	87-010-320-080		C-CAP,S 68P-50 J CH
C387	87-012-145-080		C-CAP,S 270P-50 J CH
C388	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C389	87-010-198-080		C-CAP,S 0.022-25 K B
C390	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C391	87-010-197-080		C-CAP,S 0.01-25 K B
C392	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C395	87-010-318-080		C-CAP,S 47P-50 J CH
C605	87-016-661-090		CAP,E 4700-25 M 105 TKR
C606	87-010-112-080		CAP,E 100-16 M SME
C607	87-010-263-080		CAP,E 100-10 SME
C608	87-010-112-080		CAP,E 100-16 M SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C609	87-016-451-090		CAP,E 10000-16 TKR
C610	87-010-221-080		CAP,E 470-10 M SME
C611	87-010-263-080		CAP,E 100-10 SME
C612	87-010-248-080		CAP,E 220-10 SME
C615	87-016-300-080		CAP,E 22-100 M SME
C616	87-016-285-080		CAP,E 47-100 M SME
C617	87-010-405-080		CAP,E 10-50M SME
C618	87-010-403-080		CAP,E 3.3-50 M SME
C620	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C621	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C801	87-010-374-080		CAP,E 47-10 M SME
C802	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C803	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C804	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C805	87-010-263-080		CAP,E 100-10 SME
C806	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C807	87-010-404-080		CAP,E 4.7-50 M SME
C808	87-010-197-080		C-CAP,S 0.01-25 K B
C809	87-010-263-080		CAP,E 100-10 SME
C810	87-010-197-080		C-CAP,S 0.01-25 K B
C811	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C812	87-010-374-080		CAP,E 47-10 M SME
C813	87-010-198-080		C-CAP,S 0.022-25 K B
C814	87-010-197-080		C-CAP,S 0.01-25 K B
C815	87-010-404-080		CAP,E 4.7-50 M SME
C817	87-010-404-080		CAP,E 4.7-50 M SME
C818	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C819	87-010-197-080		C-CAP,S 0.01-25 K B
C820	87-010-374-080		CAP,E 47-10 M SME
C821	87-015-696-080		CAP,E 2.2-50 M 7L SRA
C822	87-010-374-080		CAP,E 47-10 M SME
C823	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C825	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C826	87-010-394-080		CAP,E 220-35 M SME
C827	87-012-368-080		C-CAP,S 0.1-50 Z F
C831	87-010-374-080		CAP,E 47-10 M SME
C832	87-010-197-080		C-CAP,S 0.01-25 K B
C835	87-010-197-080		C-CAP,S 0.01-25 K B
C840	87-010-197-080		C-CAP,S 0.01-25 K B
C841	87-010-197-080		C-CAP,S 0.01-25 K B
C842	87-010-197-080		C-CAP,S 0.01-25 K B
C848	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C849	87-010-260-080		CAP,E 47-25 SME
C851	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C853	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C854	87-010-374-080		CAP,E 47-10 M SME
C855	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C856	87-010-374-080		CAP,E 47-10 M SME
C857	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C858	87-010-260-080		CAP,E 47-25 SME
C859	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
D105	87-A40-343-010		LED,SIR-56ST3F TRP
D106	87-A40-342-010		LED,SID-2015BR BLU
D107	87-A40-342-010		LED,SID-2015BR BLU
⚠F601	87-035-454-010		FUSE,1.6A 250V T 218
⚠FC601	87-A90-160-080		FUSE CLAMP,FC 51F
⚠FC602	87-A90-160-080		FUSE CLAMP,FC 51F
L101	87-005-647-080		COIL,10UH K LF5.0S
L102	87-005-440-080		COIL,47UH K FLR50
L103	87-005-647-080		COIL,10UH K LF5.0S
L104	87-005-647-080		COIL,10UH K LF5.0S
L105	87-005-426-080		COIL,3.3UH K FLR50
L107	87-005-647-080		COIL,10UH K LF5.0S
L281	87-005-647-080		COIL,10UH K LF5.0S<Z>
L301	87-005-440-080		COIL,47UH K FLR50
L302	87-005-440-080		COIL,47UH K FLR50
L303	87-005-440-080		COIL,47UH K FLR50
L304	87-005-686-080		COIL,15UH J LF5.0S
L305	87-005-684-080		COIL,10UH J LF5.0S
L306	87-005-691-080		COIL,39UH J LF5.0S

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L307	87-005-688-080		COIL,22UH J LF5.0S
L308	87-005-695-080		COIL,82UH J LF5.0S
L309	87-005-694-080		COIL,68UH J LF5.0S
L311	87-005-688-080		COIL,22UH J LF5.0S
L312	87-005-692-080		COIL,47UH J LF5.0S
L313	87-005-691-080		COIL,39UH J LF5.0S
L314	87-005-700-080		COIL,220UH J LF5.0S
L316	87-005-700-080		COIL,220UH J LF5.0S
L317	87-005-692-080		COIL,47UH J LF5.0S
L318	87-005-686-080		COIL,15UH J LF5.0S
L319	87-005-686-080		COIL,15UH J LF5.0S
L320	87-005-694-080		COIL,68UH J LF5.0S
L321	87-005-698-080		COIL,150UH J LF5.0S
L322	87-005-695-080		COIL,82UH J LF5.0S
L801	87-005-440-080		COIL,47UH K FLR50
L802	87-005-440-080		COIL,47UH K FLR50
L803	87-005-440-080		COIL,47UH K FLR50
L804	87-005-440-080		COIL,47UH K FLR50
L805	87-005-432-080		COIL,10UH K FLR50
L806	87-005-440-080		COIL,47UH K FLR50
Q106	87-026-698-010		P-TR,PT-34R2S
Q108	87-026-698-010		P-TR,PT-34R2S
Q111	87-026-697-010		P-TR,PN168
Q113	87-026-697-010		P-TR,PN168
R204	87-029-107-010		RES,FUSE 3.3-1/4W J
R225	87-029-107-010		RES,FUSE 3.3-1/4W J
⚠R614	87-029-107-010		RES,FUSE 3.3-1/4W J
SFR101	87-024-172-080		SFR,10K DIA6V
SW101	87-A90-083-010		SW,PUSH MPU10480MLB
SW102	87-A90-083-010		SW,PUSH MPU10480MLB
SW801	87-A90-166-010		SW,SL SLD-12-500H
TU801	87-JU1-645-010		TU UNIT, TMUG4-104ABG
X101	87-A70-055-080		VIB,XTAL 16.0MHZ NDK
X102	87-030-364-010		VIB,XTAL 32.768KHZ CFS-308 CT
X301	87-A70-019-080		VIB,XTAL 4.43MHZ

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C901	87-010-382-080		CAP,E 22-25 M SME
C902	87-010-197-080		C-CAP,S 0.01-25 K B
C903	87-010-263-080		CAP,E 100-10 SME
C904	87-010-197-080		C-CAP,S 0.01-25 K B
C905	87-010-176-080		C-CAP,680P-50 J SL
C906	87-010-263-080		CAP,E 100-10 SME
C907	87-010-197-080		C-CAP,S 0.01-25 K B
C908	87-010-401-080		CAP,E 1-50 M SME
C909	87-018-125-080		CAP,TC-U 330P-50 K B UP050
C911	87-010-322-080		C-CAP,S 100P-50 J CH
C912	87-010-322-080		C-CAP,S 100P-50 J CH
C913	87-010-322-080		C-CAP,S 100P-50 J CH
C914	87-010-322-080		C-CAP,S 100P-50 J CH
C915	87-010-322-080		C-CAP,S 100P-50 J CH
C916	87-010-322-080		C-CAP,S 100P-50 J CH
C917	87-010-322-080		C-CAP,S 100P-50 J CH
C918	87-010-322-080		C-CAP,S 100P-50 J CH
C919	87-010-322-080		C-CAP,S 100P-50 J CH
C920	87-010-322-080		C-CAP,S 100P-50 J CH
C971	87-010-197-080		C-CAP,S 0.01-25 K B<Z>
C972	87-010-805-080		C-CAP,S 1-16 Z F
D918	87-A40-228-080		LED,SLR-342MG TB7 GREEN
D919	87-A90-531-080		LED,SEL6915A<Z>
D920	87-A90-531-080		LED,SEL6915A<Z>
D921	87-A90-531-080		LED,SEL6915A<Z>
D922	87-A90-531-080		LED,SEL6915A<Z>
D971	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D972	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
D973	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D974	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
D975	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D976	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
D977	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D978	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
D979	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D980	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
D981	87-A40-228-080		LED,SLR-342MG TB7 GREEN<Z>
D982	87-A40-229-080		LED,SLR-342VR TB7 RED<Z>
FL901	87-JU1-642-010		FL,SVV-10SM05
L901	87-005-849-080		COIL,10UH K CECS
SW901	87-A90-164-080		SW,TACT SKQNAB(N)
SW902	87-A90-164-080		SW,TACT SKQNAB(N)
SW903	87-A90-164-080		SW,TACT SKQNAB(N)
SW904	87-A90-164-080		SW,TACT SKQNAB(N)
SW905	87-A90-164-080		SW,TACT SKQNAB(N)
SW906	87-A90-164-080		SW,TACT SKQNAB(N)
SW907	87-A90-164-080		SW,TACT SKQNAB(N)
SW908	87-A90-164-080		SW,TACT SKQNAB(N)
SW909	87-A90-164-080		SW,TACT SKQNAB(N)
SW910	87-A90-164-080		SW,TACT SKQNAB(N)<Z>
SW911	87-A90-164-080		SW,TACT SKQNAB(N)<Z>
SW912	87-A90-490-010		SW,JOG RJS-Y003

HEAD AMP C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C501	87-010-182-080		C-CAP,S 2200P-50 K B
C502	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C503	87-010-317-080		C-CAP,S 39P-50 J CH
C505	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C506	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C507	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C508	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C509	87-010-317-080		C-CAP,S 39P-50 J CH
C510	87-010-314-080		C-CAP,S 22P-50 J CH
C511	87-010-314-080		C-CAP,S 22P-50 J CH
C512	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C513	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C514	87-010-805-080		C-CAP,S 1-16 Z F
C515	87-010-198-080		C-CAP,S 0.022-25 K B
C516	87-010-198-080		C-CAP,S 0.022-25 K B
C517	87-010-197-080		C-CAP,S 0.01-25 K B
C520	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C521	87-010-312-080		C-CAP,S 15P-50 J CH
C522	87-010-312-080		C-CAP,S 15P-50 J CH
C524	87-010-198-080		C-CAP,S 0.022-25 K B
C525	87-010-317-080		C-CAP,S 39P-50 J CH
C526	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C527	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C528	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C552	87-010-197-080		C-CAP,S 0.01-25 K B
C553	87-010-197-080		C-CAP,S 0.01-25 K B
C554	87-010-197-080		C-CAP,S 0.01-25 K B
C555	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C556	87-015-684-080		CAP,E 47-16 M 7L SRA
C557	87-010-154-080		C-CAP,S 10P-50 D CH
C558	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C559	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C560	87-010-197-080		C-CAP,S 0.01-25 K B
C561	87-010-197-080		C-CAP,S 0.01-25 K B
C562	87-010-197-080		C-CAP,S 0.01-25 K B
C563	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C565	87-010-316-080		C-CAP,S 33P-50 J CH
FCB701	87-JU1-641-010		FF-CABLE, 6P 1.25 60MM
L501	87-005-440-080		COIL,47UH K FLR50
L503	87-005-685-080		COIL,12UH J LF5.0S
L504	87-005-692-080		COIL,47UH J LF5.0S
L551	87-005-444-080		COIL,100UH K FLR50

PN C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C881	87-018-115-080		CAP,TC U 47P-50 J SL UP050
C882	87-010-176-080		C-CAP,S 680P-50 J SL

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C883	87-010-176-080		C-CAP,S 680P-50 J SL
J881	87-A60-369-010		JACK,PIN 3P 15 VT B

CANAL C.B

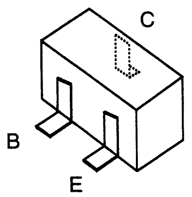
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C1	87-010-322-080		C-CAP,S 100P-50 J CH
C2	87-010-322-080		C-CAP,S 100P-50 J CH
C3	87-010-322-080		C-CAP,S 100P-50 J CH
C4	87-010-318-080		C-CAP,S 47P-50 J CH
C5	87-010-322-080		C-CAP,S 100P-50 J CH
C6	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C7	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C8	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C9	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C10	87-010-322-080		C-CAP,S 100P-50 J CH
C12	87-010-322-080		C-CAP,S 100P-50 J CH
C14	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C15	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C16	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C17	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C18	87-010-322-080		C-CAP,S 100P-50 J CH
C19	87-010-318-080		C-CAP,S 47P-50 J CH
C20	87-010-322-080		C-CAP,S 100P-50 J CH
C23	87-010-322-080		C-CAP,S 100P-50 J CH
C24	87-A10-205-080		CAP,E 470-6.3 M SRG
C25	87-015-695-080		CAP,E 1-50 M 7L SRA
C26	87-015-695-080		CAP,E 1-50 M 7L SRA
C27	87-015-696-080		CAP,E 2.2-50 M 7L SRA
C28	87-015-677-080		CAP,E 100-6.3 M 7L SRA
C30	87-015-695-080		CAP,E 1-50 M 7L SRA
C33	87-A10-205-080		CAP,E 470-6.3 M SRG
C34	87-015-695-080		CAP,E 1-50 M 7L SRA
C37	87-010-196-080		C-CAP,S 0.1-25 Z F
C38	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C39	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C40	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C41	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C42	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
C43	87-010-197-080		C-CAP,S 0.01-25 K B
C99	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C402	87-010-311-080		C-CAP,S 12P-50 J CH
C403	87-010-154-080		C-CAP,S 10P-50 D CH
C405	87-010-401-080		CAP,E 1-50 M SME
C406	87-010-263-080		CAP,E 100-10 SME
C407	87-010-197-080		C-CAP,S 0.01-25 K B
C409	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C410	87-010-318-080		C-CAP,S 47P-50 J CH
C412	87-010-401-080		CAP,E 1-50 M SME
C413	87-010-805-080		C-CAP,S 1-16 Z F
C415	87-010-198-080		C-CAP,S 0.022-25 K B
C417	87-010-314-080		C-CAP,S 22P-50 J CH
C418	87-010-148-080		C-CAP,S 4P-50 CH
C419	87-010-314-080		C-CAP,S 22P-50 J CH
C420	87-010-400-080		CAP,E 0.47-50 M SME
C421	87-010-263-080		CAP,E 100-10 SME
C422	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C423	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C424	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C425	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C702	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C703	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C704	87-015-688-080		CAP,E 4.7-35 7L<Z>
C706	87-015-684-080		CAP,E 47-16 M 7L SRA
C707	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C710	87-012-141-080		C-CAP,S 0.22-16 Z F
C711	87-012-141-080		C-CAP,S 0.22-16 Z F
C712	87-012-141-080		C-CAP,S 0.22-16 Z F
C713	87-012-141-080		C-CAP,S 0.22-16 Z F
C714	87-012-141-080		C-CAP,S 0.22-16 Z F
C715	87-012-141-080		C-CAP,S 0.22-16 Z F
C716	87-012-141-080		C-CAP,S 0.22-16 Z F
C717	87-012-141-080		C-CAP,S 0.22-16 Z F
C718	87-012-141-080		C-CAP,S 0.22-16 Z F
C719	87-012-141-080		C-CAP,S 0.22-16 Z F
C720	87-012-141-080		C-CAP,S 0.22-16 Z F
C721	87-015-681-080		CAP,E 10-16 M 7L SRA
C722	87-015-681-080		CAP,E 10-16 M 7L SRA
C723	87-015-681-080		CAP,E 10-16 M 7L SRA
C724	87-015-681-080		CAP,E 10-16 M 7L SRA
C725	87-015-681-080		CAP,E 10-16 M 7L SRA
C726	87-015-681-080		CAP,E 10-16 M 7L SRA
C727	87-015-681-080		CAP,E 10-16 M 7L SRA
C728	87-010-197-080		C-CAP,S 0.01-25 K B
C729	87-010-197-080		C-CAP,S 0.01-25 K B
C730	87-010-198-080		C-CAP,S 0.022-25 K B
C731	87-010-183-080		C-CAP,S 2700P-50 K B
C732	87-015-681-080		CAP,E 10-16 M 7L SRA
C733	87-015-688-080		CAP,E 4.7-35 7L
C734	87-010-180-080		C-CAP,S 1500P-50 K B
C735	87-A10-202-080		CAP,E 47-16 M 105 KRL
C736	87-012-141-080		C-CAP,S 0.22-16 Z F
C737	87-010-186-080		C-CAP,S 4700P-50 K B
C738	87-015-681-080		CAP,E 10-16 M 7L SRA
C739	87-015-681-080		CAP,E 10-16 M 7L SRA
C740	87-010-402-080		CAP,E 2.2-50 M SME
C741	87-015-681-080		CAP,E 10-16 M 7L SRA
C742	87-015-681-080		CAP,E 10-16 M 7L SRA
C743	87-010-186-080		C-CAP,S 4700P-50 K B
C744	87-012-141-080		C-CAP,S 0.22-16 Z F
C745	87-010-380-080		CAP,E 47-16 M SME
C746	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C747	87-010-378-080		CAP,E 10-16 M SME
C748	87-010-198-080		C-CAP,S 0.022-25 K B
C749	87-010-198-080		C-CAP,S 0.022-25 K B
C750	87-010-380-080		CAP,E 47-16 M SME
C751	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C752	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C753	87-010-322-080		C-CAP,S 100P-50 J CH
C754	87-015-696-080		CAP,E 2.2-50 M 7L SRA
C755	87-015-681-080		CAP,E 10-16 M 7L SRA
C756	87-010-178-080		C-CAP,S 1000P-50 K B
C757	87-A10-212-080		CAP,M 0.022-100 J
C758	87-012-156-080		C-CAP,S 220P-50 J CH GRM
C759	87-015-684-080		CAP,E 47-16 M 7L SRA
C760	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C761	87-010-182-080		C-CAP,S 2200P-50 K B
C763	87-018-805-080		C-CAP,S 1-16 Z F
C764	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C766	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C768	87-010-197-080		C-CAP,S 0.01-25 K B
C769	87-015-684-080		CAP,E 47-16 M 7L SRA
C777	87-015-688-080		CAP,E 4.7-35 M 7L SRA
FB1	87-003-223-080		F-BEAD, BL02RN2
J1	87-A60-368-010		JACK,PIN 2P JK020123
L1	87-005-444-080		COIL,100UH K FLR50
L401	87-005-440-080		COIL,47UH K FLR50
L402	87-005-440-080		COIL,47UH K FLR50
L404	87-005-839-080		COIL,5.6UH G LF5.0S
L701	87-005-684-080		COIL,10UH J LF5.0S
L702	87-003-131-080		COIL,10MH J EL0607
L703	87-005-152-080		COIL,10UH K LAL03
L704	87-005-684-080		COIL,10UH J LF5.0S
L705	87-005-684-080		COIL,10UH J LF5.0S
L706	87-005-684-080		COIL,10UH J LF5.0S
L707	86-JU1-655-010		COIL,BIAS AE
L708	86-JU1-656-010		COIL,BIAS FE
X401	83-JU3-666-080		VIB,XTAL 17.73MHZ

SD C.B<Z>

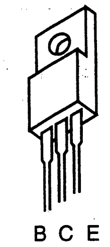
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C31	87-015-681-080		CAP,E 10-16 M 7L SRA
C32	87-015-681-080		CAP,E 10-16 M 7L SRA
C54	87-015-695-080		CAP,E 1-50 M 7L SRA
C55	87-015-695-080		CAP,E 1-50 M 7L SRA
C71	87-010-188-080		C-CAP,S 6800P-50 K B
C72	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C73	87-010-321-080		C-CAP,S 82P-50 J CH
C74	87-010-060-080		CAP,E 100-16 M 7L SRA
C75	87-015-681-080		CAP,E 10-16 M 7L SRA
C76	87-010-320-080		C-CAP,S 68P-50 J CH
C77	87-015-681-080		CAP,E 10-16 M 7L SRA
C78	87-010-060-080		CAP,E 100-16 M 7L SRA
C79	87-015-681-080		CAP,E 10-16 M 7L SRA
C80	87-010-320-080		C-CAP,S 68P-50 J CH
C81	87-010-321-080		C-CAP,S 82P-50 J CH
C82	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C83	87-010-188-080		C-CAP,S 6800P-50 K B
C84	87-010-060-080		CAP,E 100-16 M 7L SRA
C85	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C86	87-015-684-080		CAP,E 47-16 M 7L SRA
C87	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C88	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C89	87-015-681-080		CAP,E 10-16 M 7L SRA
C90	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C91	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C92	87-015-681-080		CAP,E 10-16 M 7L SRA
C93	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C94	87-015-684-080		CAP,E 47-16 M 7L SRA
C95	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C96	87-015-684-080		CAP,E 47-16 M 7L SRA
C771	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C772	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C773	87-015-684-080		CAP,E 47-16 M 7L SRA
C776	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C777	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C778	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C779	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C781	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C782	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C783	87-015-684-080		CAP,E 47-16 M 7L SRA
C784	87-010-197-080		C-CAP,S 0.01-25 K B
C785	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C786	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C787	87-010-197-080		C-CAP,S 0.01-25 K B
C788	87-015-688-080		CAP,E 4.7-35 M 7L SRA
C789	87-015-688-080		CAP,E 4.7-35 M 7L SRA
PS C.B			
BT641	86-JU1-660-010		CONN ASSY,8P PW
⚠C641	87-016-608-010		CAP,M/P 0.022-275 M
⚠F641	87-035-449-010		FUSE,500MA 250V T 218
⚠F643	87-035-454-010		FUSE,1.6A 250V T 218
⚠FC641	87-A90-160-080		FUSE CLAMP,FC 51F
⚠FC642	87-A90-160-080		FUSE CLAMP,FC 51F
⚠FC645	87-A90-160-080		FUSE CLAMP,FC 51F
⚠FC646	87-A90-160-080		FUSE CLAMP,FC 51F
⚠J641	87-009-329-010		JACK,AC E BLK W/O SW
⚠LF641	87-A90-418-010		FLTR,22MH SS10V-04220
⚠LF642	87-A90-491-010		FLTR,20UH SU9VD-07020
⚠PT641	87-JU1-631-110		PT,K
⚠R641	87-029-374-010		RES,FUSE 47-1/4W J
BASE C.B			
FE C.B			
CM C.B			

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
DM LEAD C.B			
ACE HEAD C.B			
ZWEITON C.B			
C451	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C452	87-015-684-080		CAP,E 47-16 M 7L SRA
C453	87-010-197-080		C-CAP,S 0.01-25 K B
C454	87-010-197-080		C-CAP,S 0.01-25 K B
C455	87-010-263-080		CAP,E 100-10 SME
C459	87-010-404-080		CAP,E 4.7-50 M SME
C460	87-010-197-080		C-CAP,S 0.01-25 K B
C461	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C462	87-010-263-080		CAP,E 100-10 SME
C463	87-010-404-080		CAP,E 4.7-50 M SME
C464	87-010-318-080		C-CAP,S 47P-50 J CH
C465	87-010-404-080		CAP,E 4.7-50 M SME
C469	87-010-402-080		CAP,E 2.2-50 M SME
C475	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C477	87-010-197-080		C-CAP,S 0.01-25 K B
C482	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C483	87-010-197-080		C-CAP,S 0.01-25 K B
C484	87-010-316-080		C-CAP,S 33P-50 J CH
C485	87-015-681-080		CAP,E 10-16 M 7L SRA
C486	87-010-317-080		C-CAP,S 39P-50 J CH
C487	87-010-317-080		C-CAP,S 39P-50 J CH
C490	87-010-321-080		C-CAP,S 82P-50 J CH
C491	87-010-320-080		C-CAP,S 68P-50 J CH
C492	87-010-197-080		C-CAP,S 0.01-25 K B
C493	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
L451	87-005-485-080		COIL,100UH J FLR50
L454	87-005-485-080		COIL,100UH J FLR50
L455	87-005-684-080		COIL,10UH J LF5.0S
L456	87-A50-097-010		COIL,126ANS-A3561HM
SFR451	87-024-272-080		SFR,10K V RH0632C
X451	87-A70-041-080		VIB,XTAL 10MHZ
X453	87-A90-184-080		FLTR, SFE5.74MC2
X454	87-A90-204-080		FLTR,CER CDSH5.74MC39K

TRANSISTOR ILLUSTRATION



2SA1037
2SA1162
2SC2412
DTA144
DTC114
DTC144



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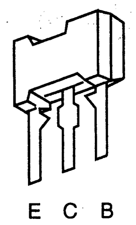
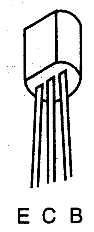
2SD2394



2SB1237



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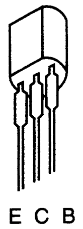


2SA934

PRACTICAL SERVICE FIGURE

< VIDEO >

Video output level :	1.0 ± 0.2Vp-p (PB, TTV-P1) 1.1 ± 0.2Vp-p (PB, TTV-N1)
Horizontal resolution :	More than 240 lines (SP)

<AUDIO>

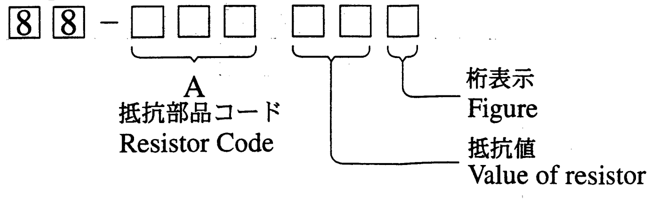
Audio output level:	-8dBs ± 3.0dBm (22kΩ load, at 1kHz) [NORMAL, PB] -8dBs ± 3.0dBm (22kΩ load, at 1kHz) [Hi-Fi, PB]
Audio S/N ratio :	Less than -40dB (NORMAL, REC/PB) Less than -60dB (Hi-Fi, REC/PB)
Audio Distortion:	Less than 3.0% (NORMAL SP) Less than 1.5% (Hi-Fi)

<MECHA DECK>

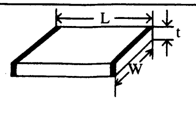
Loading time :	Less than 15 sec
Winding time :	Less than 180 sec
Rewinding time :	Less than 180 sec
FWD back tension :	44 ± 16 g-cm

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

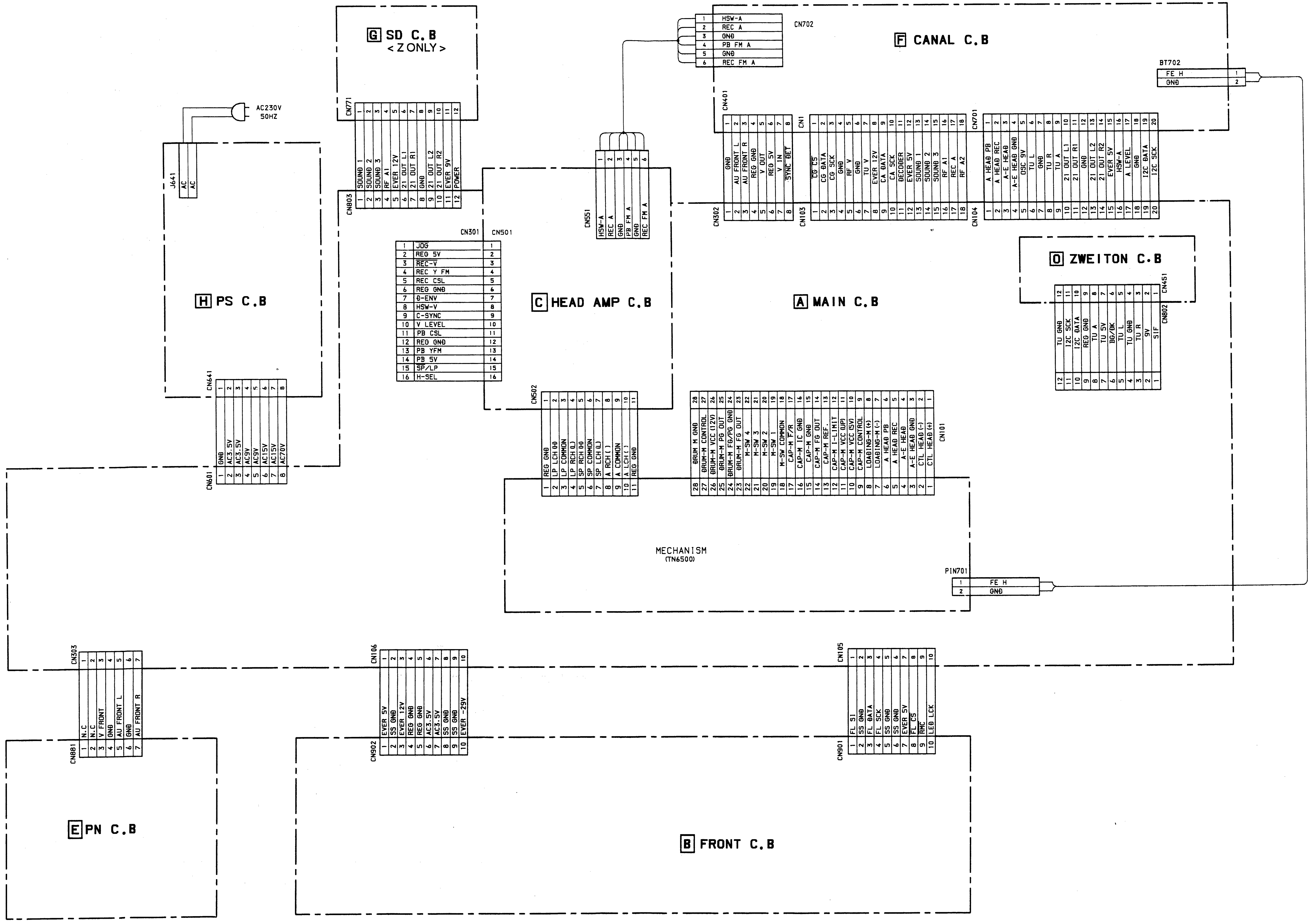
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



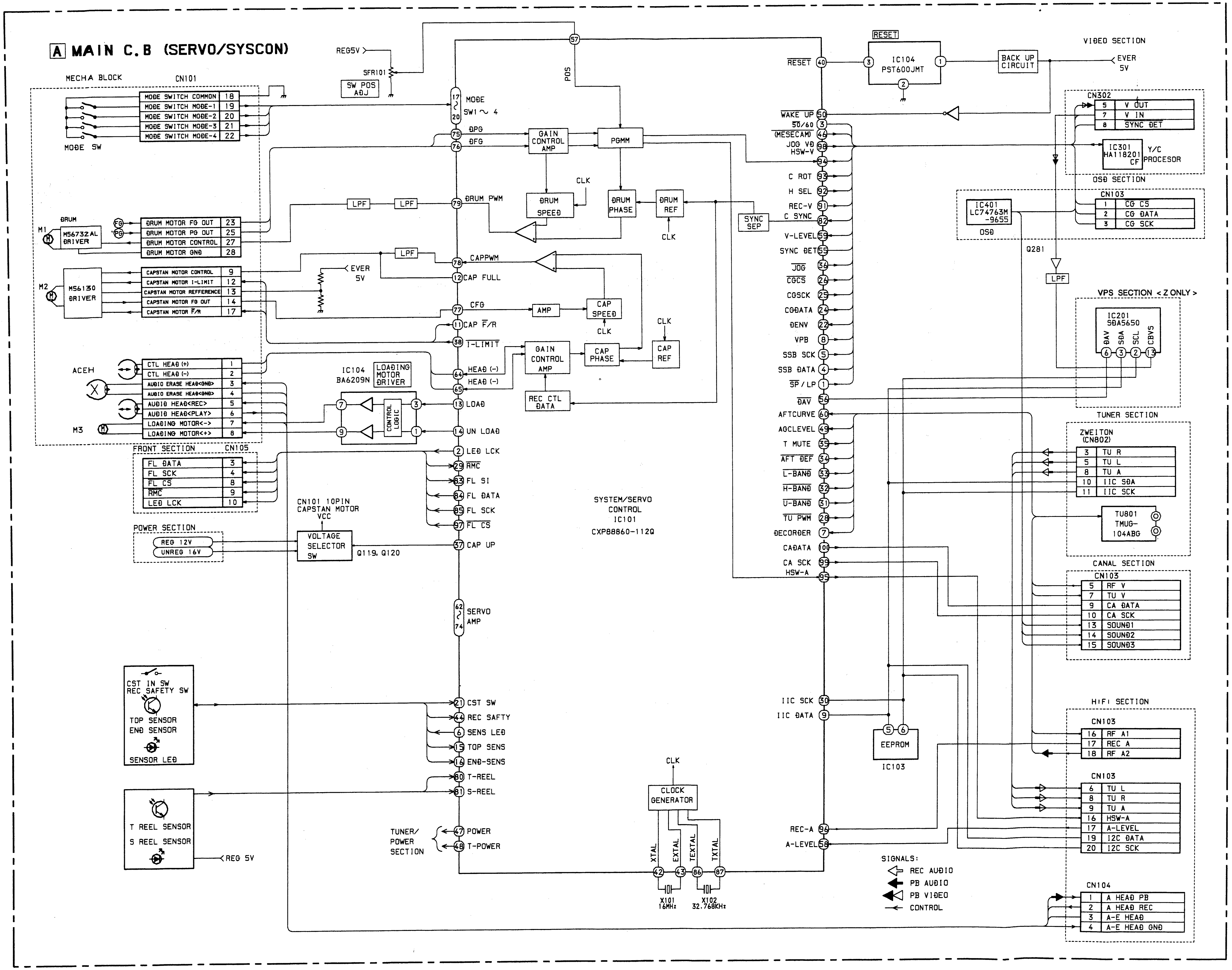
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード : A Resistor Code : A
				外形／Form	L	W	t	
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

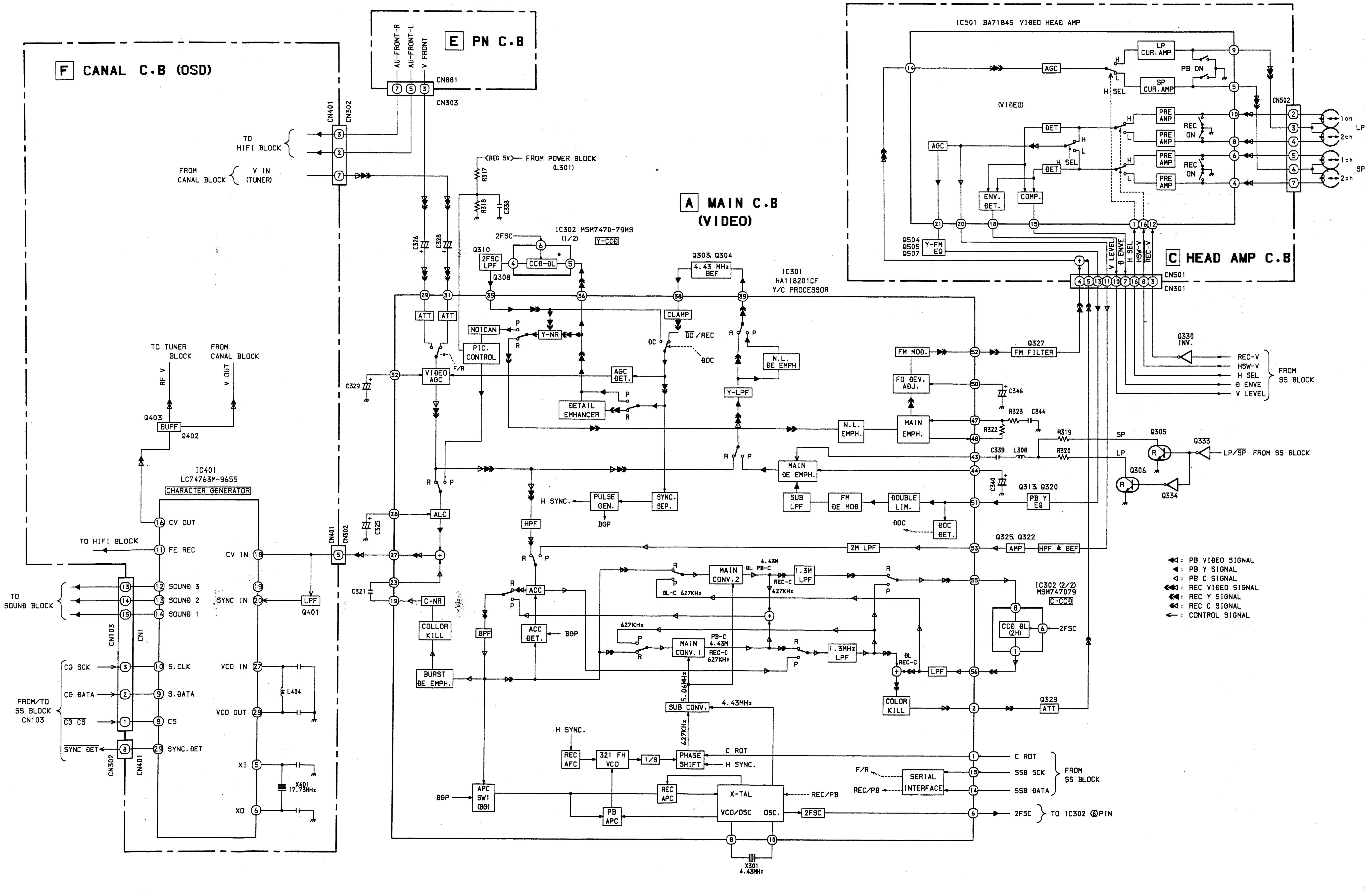
WIRE HARNESS DIAGRAM


G SD C.B
< Z ONLY >
CN771
SOUND 1
SOUND 2
SOUND 3
RF A1
EVER 12V
21 OUT L1
21 OUT R1
GND
21 OUT L2
21 OUT R2
EVER 9V
POWER
CN803
AC230V
50HZ
J641
AC
AC
H PS C.B
CN641
CN601
GND
AC3.5V
AC3.5V
AC9V
AC9V
AC15V
AC15V
AC70V
CN301
CN501
JOG
REG 5V
REC-V
REC Y FM
REC CSL
REG GND
θ-ENV
HSW-V
C-SYNC
V LEVEL
PB CSL
REG GND
PB YFM
PB 5V
SP/LP
H-SEL
C HEAD AMP C.B
CN551
HSW-A
REC A
GND
PB FM A
GND
REC FM A
CN702
F CANAL C.B
BT702
FE H
GND
CN401
GND
AU FRONT L
AU FRONT R
REG GND
V OUT
REG 5V
V IN
SYNC DET
CN1
CG CS
CG DATA
CG SCK
GND
RF V
GND
TU V
EVER 12V
CA DATA
CA SCK
DECODER
EVER 5V
SOUND 1
SOUND 2
SOUND 3
RF A1
REC A
RF A2
CN701
A HEAD PB
A HEAD REC
A-E HEAD
A-E HEAD GND
OSC 9V
TU L
GND
TU R
TU A
21 OUT L1
21 OUT R1
GND
21 OUT L2
21 OUT R2
EVER 5V
HSW-A
A LEVEL
GND
I2C DATA
I2C SCK
CN302
CN103
CN104
A MAIN C.B
O ZWEITON C.B
CN451
CN802
TU GND
I2C SCK
I2C DATA
REG GND
TU A
TU 5V
BG/DK
TU L
TU GND
TU R
9V
SIF
CN502
REG GND
LP LCH (H)
LP COMMON
LP RCH (L)
SP RCH (H)
SP COMMON
SP LCH (L)
A RCH ( )
A COMMON
A LCH ( )
REG GND
CN101
DRUM M GND
DRUM-M CONTROL
DRUM-M VCC (12V)
DRUM-M FG OUT
DRUM-M FG/PG GND
DRUM-M FG OUT
M-SW 4
M-SW 3
M-SW 2
M-SW 1
M-SW COMMON
CAP-M F/R
CAP-M IC GND
CAP-M GND
CAP-M FG OUT
CAP-M REF.
CAP-M T-LIMIT
CAP-M VCC (UP)
CAP-M VCC (5V)
CAP-M CONTROL
LOADING-M (+)
LOADING-M (-)
A HEAD PB
A HEAD REC
A-E HEAD
A-E HEAD GND
CTL HEAD (-)
CTL HEAD (+)
MECHANISM
(TN6500)
PIN701
FE H
GND
CN303
CN881
N.C
N.C
V FRONT
GND
AU FRONT L
GND
AU FRONT R
E PN C.B
CN106
CN902
EVER 5V
SS GND
EVER 12V
REG GND
REG GND
AC3.5V
AC3.5V
SS GND
SS GND
EVER -29V
CN105
CN901
FL S1
SS GND
FL DATA
FL SCK
SS GND
SS GND
EVER 5V
FL CS
RMC
LED LCK
B FRONT C.B

BLOCK DIAGRAM – 1 (SS)

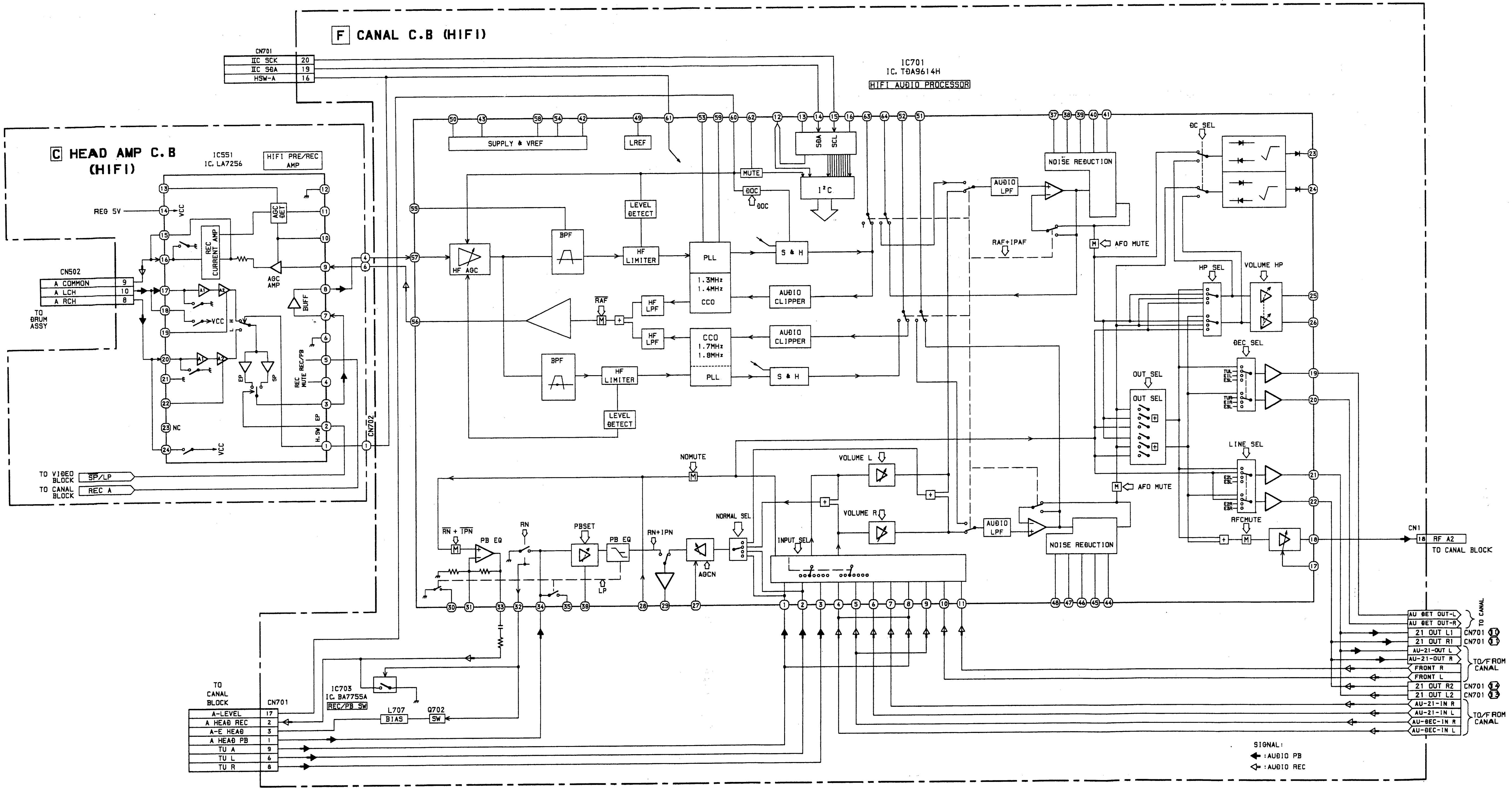

A MAIN C.B (SERVO/SYSCON)
MECHA BLOCK
CN101
MODE SWITCH COMMON 18
MODE SWITCH MODE-1 19
MODE SWITCH MODE-2 20
MODE SWITCH MODE-3 21
MODE SWITCH MODE-4 22
MODE SW
DRUM
M1
M56732AL DRIVER
FG
PG
DRUM MOTOR FG OUT 23
DRUM MOTOR PG OUT 25
DRUM MOTOR CONTROL 27
DRUM MOTOR GND 28
M2
M56130 DRIVER
CAPSTAN MOTOR CONTROL 9
CAPSTAN MOTOR I-LIMIT 12
CAPSTAN MOTOR REFFERENCE 13
CAPSTAN MOTOR FG OUT 14
CAPSTAN MOTOR F/R 17
ACEH
CTL HEAD (+) 1
CTL HEAD (-) 2
AUDIO ERASE HEAD<GND> 3
AUDIO ERASE HEAD<GND> 4
AUDIO HEAD<REC> 5
AUDIO HEAD<PLAY> 6
LOADING MOTOR<-> 7
LOADING MOTOR<+> 8
M3
FRONT SECTION
CN105
FL DATA 3
FL SCK 4
FL CS 8
RMC 9
LED LCK 10
POWER SECTION
REG 12V
UNREG 16V
CN101 10PIN CAPSTAN MOTOR VCC
VOLTAGE SELECTOR SW
Q119, Q120
REG5V
SFR101
SW POS ADJ
IC104 BA6209N
LOADING MOTOR DRIVER
CONTROL LOGIC
EVER 5V
LPF
GAIN CONTROL AMP
PGMM
CLK
DRUM SPEED
DRUM PHASE
DRUM REF
AMP
CAP SPEED
CAP PHASE
CAP REF
REC CTL DATA
SYNC SEP
POS
17~20 MODE SW1 ~ 4
75 DPG
76 DFG
79 DRUM PWM
78 CAPPWM
12 CAP FULL
77 CFG
11 CAP F/R
38 I-LIMIT
64 HEAD (-)
65 HEAD (-)
13 LOAD
14 UN LOAD
2 LED LCK
29 RMC
83 FL SI
84 FL DATA
85 FL SCK
97 FL CS
37 CAP UP
62~74 SERVO AMP
21 CST SW
44 REC SAFTY
6 SENS LED
15 TOP SENS
16 END-SENS
80 T-REEL
81 S-REEL
TUNER/POWER SECTION
47 POWER
48 T-POWER
SYSTEM/SERVO CONTROL IC101 CXP88860-112Q
RESET 40
WAKE UP 50
50/60 3
(MESECAM) 46
JOG VD 98
HSW-V 94
C ROT 93
H SEL 92
REC-V 91
C SYNC 82
V-LEVEL 59
SYNC DET 55
JOG 36
CGCS 26
CGSCK 25
CGDATA 24
DENV 22
VPB 8
SSB SCK 5
SSB DATA 4
SP / LP 1
DAV 56
AFTCURVE 60
AGCLEVEL 49
T MUTE 35
AFT DEF 34
L-BAND 33
H-BAND 32
U-BAND 31
TU PWM 28
DECORDER 7
CADATA 100
CA SCK 99
HSW-A 95
IIC SCK 30
IIC DATA 9
REC-A 96
A-LEVEL 58
CLK
CLOCK GENERATOR
XTAL 42
EXTAL 43
TEXTAL 86
TXTAL 87
X101 16MHz
X102 32.768KHz
CST IN SW
REC SAFETY SW
TOP SENSOR
END SENSOR
SENSOR LED
T REEL SENSOR
S REEL SENSOR
REG 5V
RESET
IC104 PST600JMT
BACK UP CIRCUIT
VIDEO SECTION
EVER 5V
CN302
5 V OUT
7 V IN
8 SYNC DET
IC301 HA118201CF
Y/C PROCESOR
OSD SECTION
IC401 LC74763M-9655
OSD
CN103
1 CG CS
2 CG DATA
3 CG SCK
Q281
LPF
VPS SECTION <Z ONLY>
IC201 SDA5650
DAV SDA SCL CBVS
TUNER SECTION
ZWEITON (CN802)
3 TU R
5 TU L
8 TU A
10 IIC SDA
11 IIC SCK
TU801 TMUG-104ABG
CANAL SECTION
CN103
5 RF V
7 TU V
9 CA DATA
10 CA SCK
13 SOUND1
14 SOUND2
15 SOUND3
EEPROM
IC103
HIFI SECTION
CN103
16 RF A1
17 REC A
18 RF A2
CN103
6 TU L
8 TU R
9 TU A
16 HSW-A
17 A-LEVEL
19 I2C DATA
20 I2C SCK
CN104
1 A HEAD PB
2 A HEAD REC
3 A-E HEAD
4 A-E HEAD GND
SIGNALS:
REC AUDIO
PB AUDIO
PB VIDEO
CONTROL

BLOCK DIAGRAM – 2 (VIDEO)

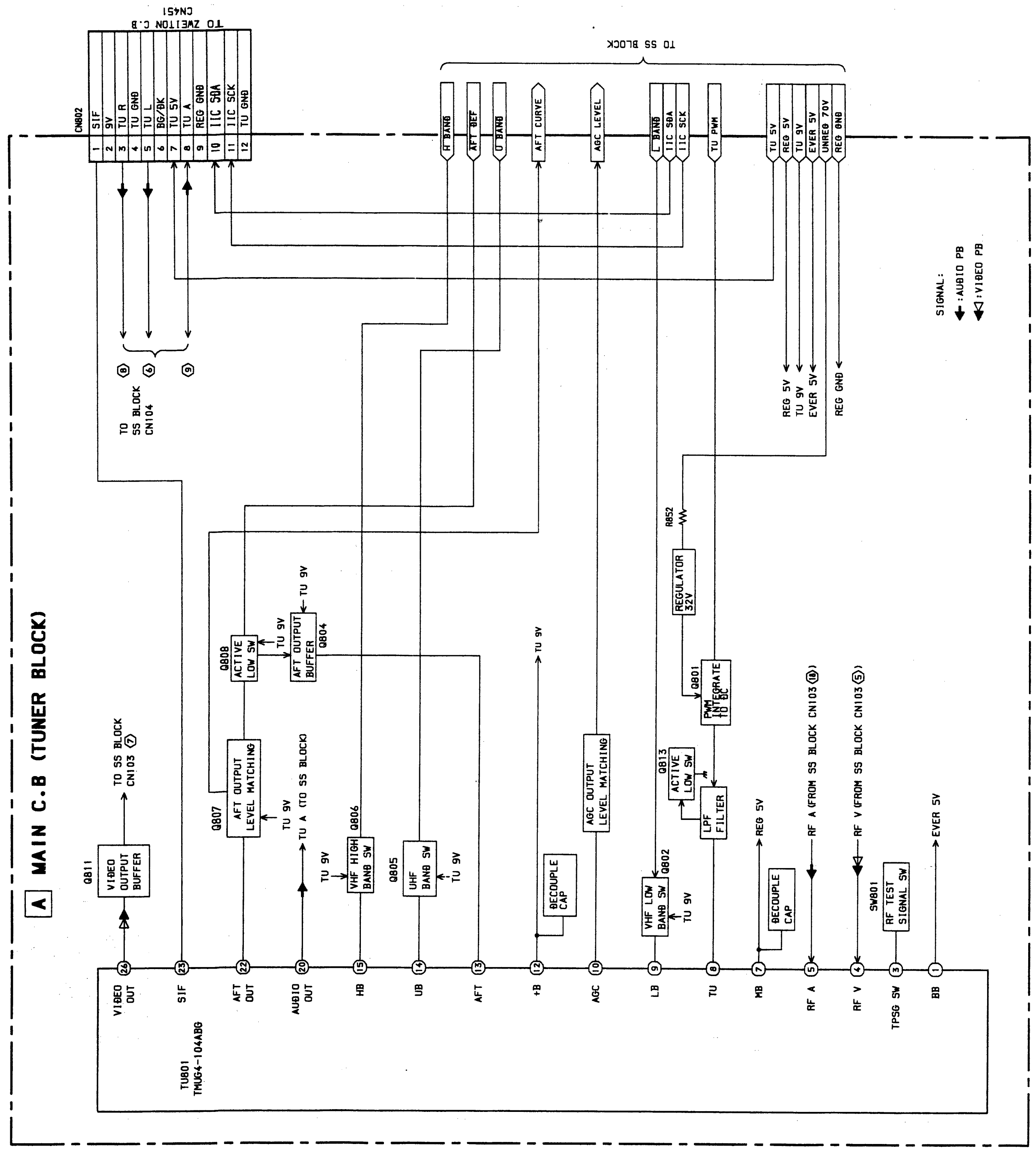


F CANAL C.B (OSD)
E PN C.B
A MAIN C.B (VIDEO)
C HEAD AMP C.B
AU-FRONT-R
AU-FRONT-L
V FRONT
CN881
CN303
CN401
CN302
TO HIFI BLOCK
FROM CANAL BLOCK
V IN (TUNER)
REG 5V
FROM POWER BLOCK (L301)
R317
R318
C358
C326
C328
IC302 MSM7470-79MS (1/2)
Y-CCD
2FSC
Q310
2FSC LPF
Q308
CCD-DL
Q303, Q304
4.43 MHz BEF
IC301 HA118201CF Y/C PROCESSOR
ATT
NOICAN
Y-NR
PIC. CONTROL
F/R
CLAMP
DOC
DO /REC
N.L. DE EMPH
Y-LPF
VIDEO AGC
AGC DET.
DETAIL EMHANCER
C329
TO TUNER BLOCK
RF V
V OUT
Q403
BUFF
Q402
IC401 LC74763M-9655
CHARACTER GENERATOR
CV OUT
TO HIFI BLOCK
FE REC
CV IN
SOUND 3
SOUND 2
SOUND 1
TO SOUND BLOCK
SYNC IN
LPF
Q401
CN103
CN1
CG SCK
CG DATA
CG CS
SYNC DET
S.CLK
S.DATA
CS
SYNC.DET
FROM/TO SS BLOCK CN103
VCO IN
VCO OUT
L404
X1
XO
X401 17.73MHz
ALC
C325
C321
H SYNC.
PULSE GEN.
SYNC. SEP.
BGP
HPF
C-NR
COLLOR KILL
BURST DE EMPH.
ACC
ACC DET.
BPF
APC SW1 (BG)
REC AFC
321 FH VCO
1/8
PHASE SHIFT
C ROT
SUB CONV.
5.06MHz
627KHz
4.43MHz
MAIN CONV.2
MAIN CONV.1
DL PB-C
REC-C
DL-C 627KHz
PB-C 4.43M
REC-C 627KHz
1.3M LPF
1.3MHz LPF
DL REC-C
LPF
COLOR KILL
REC APC
PB APC
X-TAL VCO/OSC OSC.
REC/PB
2FSC
X301 4.43MHz
F/R
REC/PB
SERIAL INTERFACE
C ROT
SSB SCK
SSB DATA
FROM SS BLOCK
2FSC
TO IC302 ⑥PIN
FM MOD.
Q327
FM FILTER
FO DEV. ADJ.
C346
R323
C344
R322
MAIN EMPH.
N.L. EMPH.
C339
L308
R319
R320
MAIN DE EMPH.
SUB LPF
FM DE MOD
DOUBLE LIM.
DOC DET.
C340
Q313, Q320
PB Y EQ
Q325, Q322
AMP
HPF & BEF
2M LPF
IC302 (2/2) MSM747079
C-CCD
CCD DL (2H)
Q329
ATT
SP
LP
Q305
Q306
Q333
Q334
LP/SP FROM SS BLOCK
Q330 INV.
REC-V
HSW-V
H SEL
D ENVE
V LEVEL
FROM SS BLOCK
CN301
CN501
CN502
IC501 BA7184S VIDEO HEAD AMP
AGC
LP CUR.AMP
SP CUR.AMP
PB ON
H SEL
(VIDEO)
DET
PRE AMP
REC ON
ENV. DET.
COMP.
Q504 Q505 Q507
Y-FM EQ
V LEVEL
D ENVE
H SEL
HSW-V
REC-V
1ch
2ch
LP
SP
◄◄ : PB VIDEO SIGNAL
◄ : PB Y SIGNAL
◁ : PB C SIGNAL
◄◄◄ : REC VIDEO SIGNAL
◄◄ : REC Y SIGNAL
◄◄ : REC C SIGNAL
← : CONTROL SIGNAL

BLOCK DIAGRAM – 3 (AUDIO)

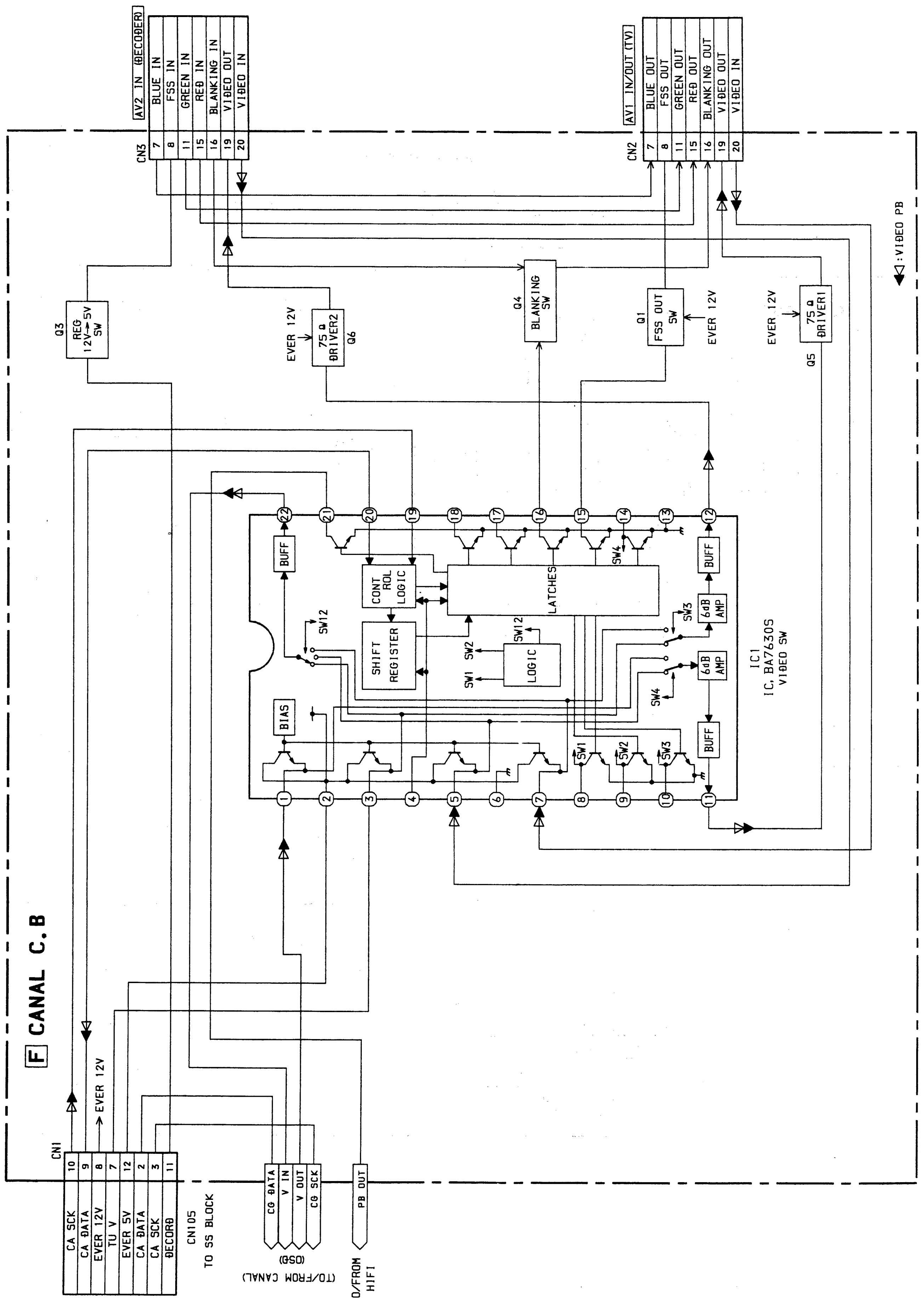

F CANAL C.B (HIFI)
C HEAD AMP C.B (HIFI)
IC551
IC, LA7256
HIFI PRE/REC AMP
IC701
IC, TDA9614H
HIFI AUDIO PROCESSOR
IC703
IC, BA7755A
REC/PB SW
CN701
IIC SCK 20
IIC SDA 19
HSW-A 16
CN502
A COMMON 9
A LCH 10
A RCH 8
TO DRUM ASSY
REG 5V
VCC
AGC DET
REC CURRENT AMP
AGC AMP
BUFF
EP
SP
REC MUTE REC/PB
H.SW
NC
CN702
TO VIDEO BLOCK
SP/LP
TO CANAL BLOCK
REC A
SUPPLY & VREF
LREF
MUTE
DOC
I²C
SDA
SCL
LEVEL DETECT
BPF
HF AGC
HF LIMITER
PLL
1.3MHz
1.4MHz
CCO
1.7MHz
1.8MHz
S & H
AUDIO CLIPPER
RAF
HF LPF
NOISE REDUCTION
AUDIO LPF
RAF+IPAF
AFO MUTE
DC SEL
HP SEL
VOLUME HP
DEC SEL
OUT SEL
LINE SEL
RFCMUTE
NOMUTE
VOLUME L
VOLUME R
NORMAL SEL
INPUT SELA
AGCN
RN + IPN
RN
PB EQ
PBSET
RN+IPN
LP
CN1
18 RF A2
TO CANAL BLOCK
AU DET OUT-L
AU DET OUT-R
TO CANAL
21 OUT L1 CN701 ⑩
21 OUT R1 CN701 ⑪
AU-21-OUT L
AU-21-OUT R
FRONT R
FRONT L
TO/FROM CANAL
21 OUT R2 CN701 ⑭
21 OUT L2 CN701 ⑬
AU-21-IN R
AU-21-IN L
AU-DEC-IN R
AU-DEC-IN L
TO/FROM CANAL
TO CANAL BLOCK
CN701
A-LEVEL 17
A HEAD REC 2
A-E HEAD 3
A HEAD PB 1
TU A 9
TU L 6
TU R 8
L707
BIAS
Q702
SW
SIGNAL:
◀ :AUDIO PB
◁ :AUDIO REC

BLOCK DIAGRAM – 4 (TUNER)



A MAIN C.B (TUNER BLOCK)
CN802
TO ZWEITON C.B CN451
1 SIF
2 9V
3 TU R
4 TU GND
5 TU L
6 BG/DK
7 TU 5V
8 TU A
9 REG GND
10 IIC SDA
11 IIC SCK
12 TU GND
TO SS BLOCK
H BAND
AFT DEF
U BAND
AFT CURVE
AGC LEVEL
L BAND
IIC SDA
IIC SCK
TU PWM
TU 5V
REG 5V
TU 9V
EVER 5V
UNREG 70V
REG GND
TO SS BLOCK CN104
REG 5V
TU 9V
EVER 5V
REG GND
SIGNAL:
:AUDIO PB
:VIDEO PB
Q811 VIDEO OUTPUT BUFFER
TO SS BLOCK CN103 ⑦
Q807 AFT OUTPUT LEVEL MATCHING
Q808 ACTIVE LOW SW
Q804 AFT OUTPUT BUFFER
TU 9V
TU A (TO SS BLOCK)
Q806 VHF HIGH BAND SW
Q805 UHF BAND SW
DECOUPLE CAP
AGC OUTPUT LEVEL MATCHING
Q802 VHF LOW BAND SW
Q813 ACTIVE LOW SW
LPF FILTER
Q801 PWM INTEGRATE
REGULATOR 32V
R852
DECOUPLE CAP
REG 5V
RF A (FROM SS BLOCK CN103 ⑩)
RF V (FROM SS BLOCK CN103 ⑤)
SW801 RF TEST SIGNAL SW
EVER 5V
TU801 TMUG4-104AB0
VIDEO OUT
SIF
AFT OUT
AUDIO OUT
HB
UB
AFT
+B
AGC
LB
TU
MB
RF A
RF V
TPSG SW
BB

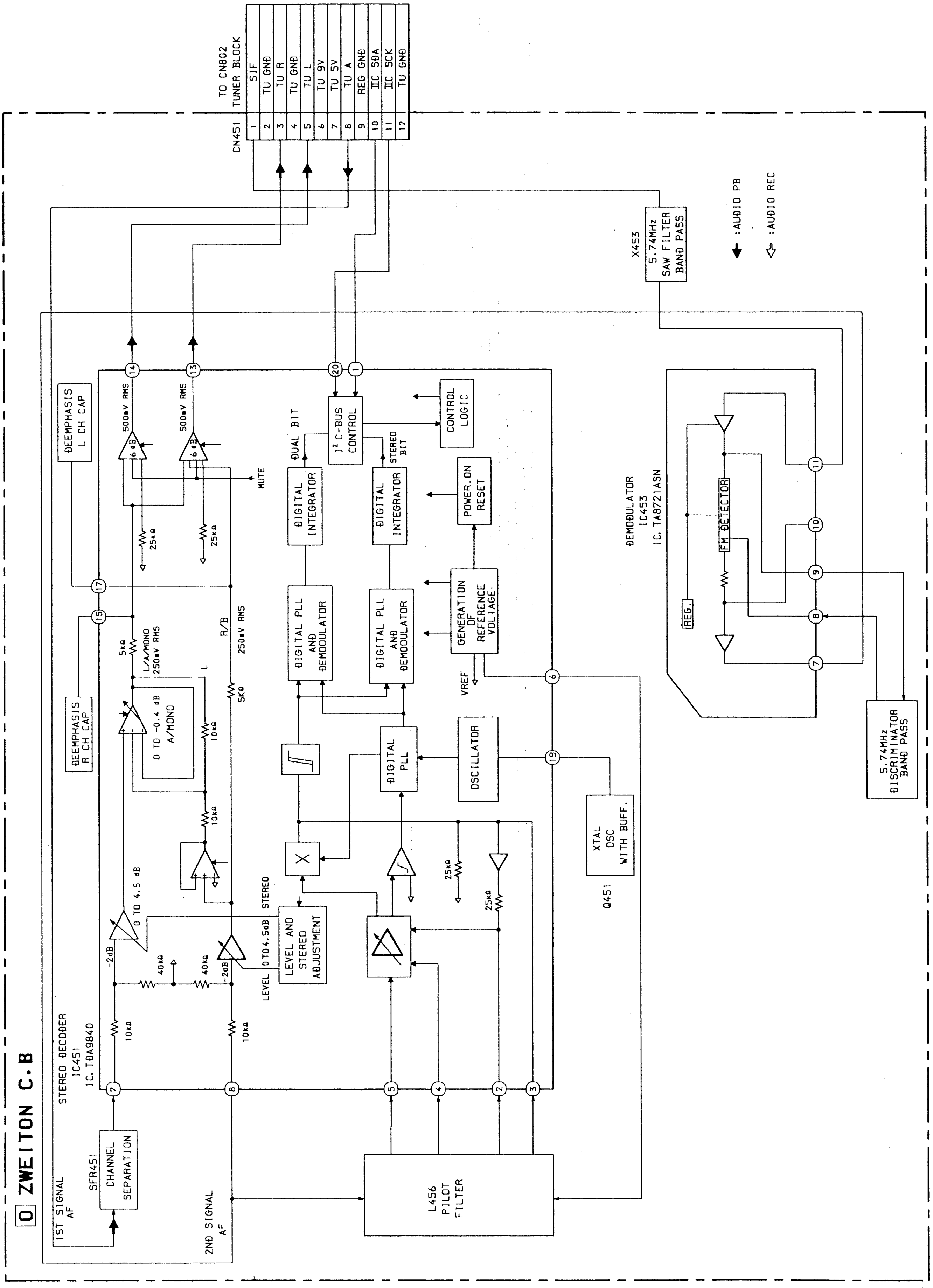
BLOCK DIAGRAM – 5 (CANAL)



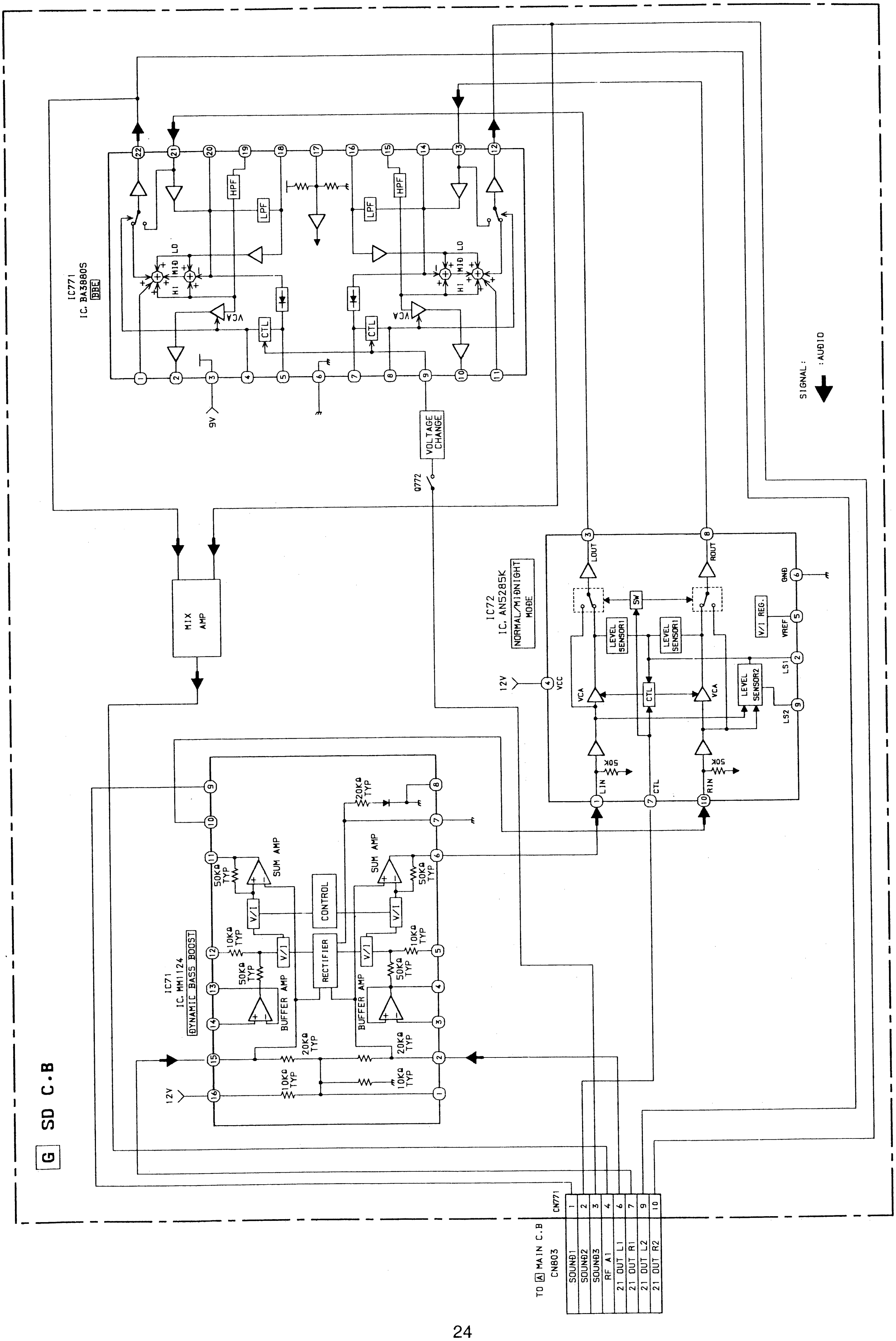
F CANAL C.B
CN3
AV2 IN (DECODER)
7 BLUE IN
8 FSS IN
11 GREEN IN
15 RED IN
16 BLANKING IN
19 VIDEO OUT
20 VIDEO IN
CN2
AV1 IN/OUT (TV)
7 BLUE OUT
8 FSS OUT
11 GREEN OUT
15 RED OUT
16 BLANKING OUT
19 VIDEO OUT
20 VIDEO IN
:VIDEO PB
Q3 REG 12V→5V SW
EVER 12V
Q6 75Ω DRIVER2
Q4 BLANKING SW
Q1 FSS OUT SW
EVER 12V
EVER 12V
Q5 75Ω DRIVER1
IC1 IC, BA7630S VIDEO SW
BUFF
CONTROL LOGIC
LATCHES
SHIFT REGISTER
LOGIC
SW12
SW1
SW2
SW3
SW4
6dB AMP
BIAS
EVER 12V
CN1
10 CA SCK
9 CA DATA
8 EVER 12V
7 TU V
12 EVER 5V
2 CA DATA
3 CA SCK
11 DECORD
CN105 TO SS BLOCK
CG DATA
V IN
V OUT
CG SCK
(TO/FROM CANAL) (OSD)
PB OUT
TO/FROM HIFI

BLOCK DIAGRAM – 6 (ZWEITON)

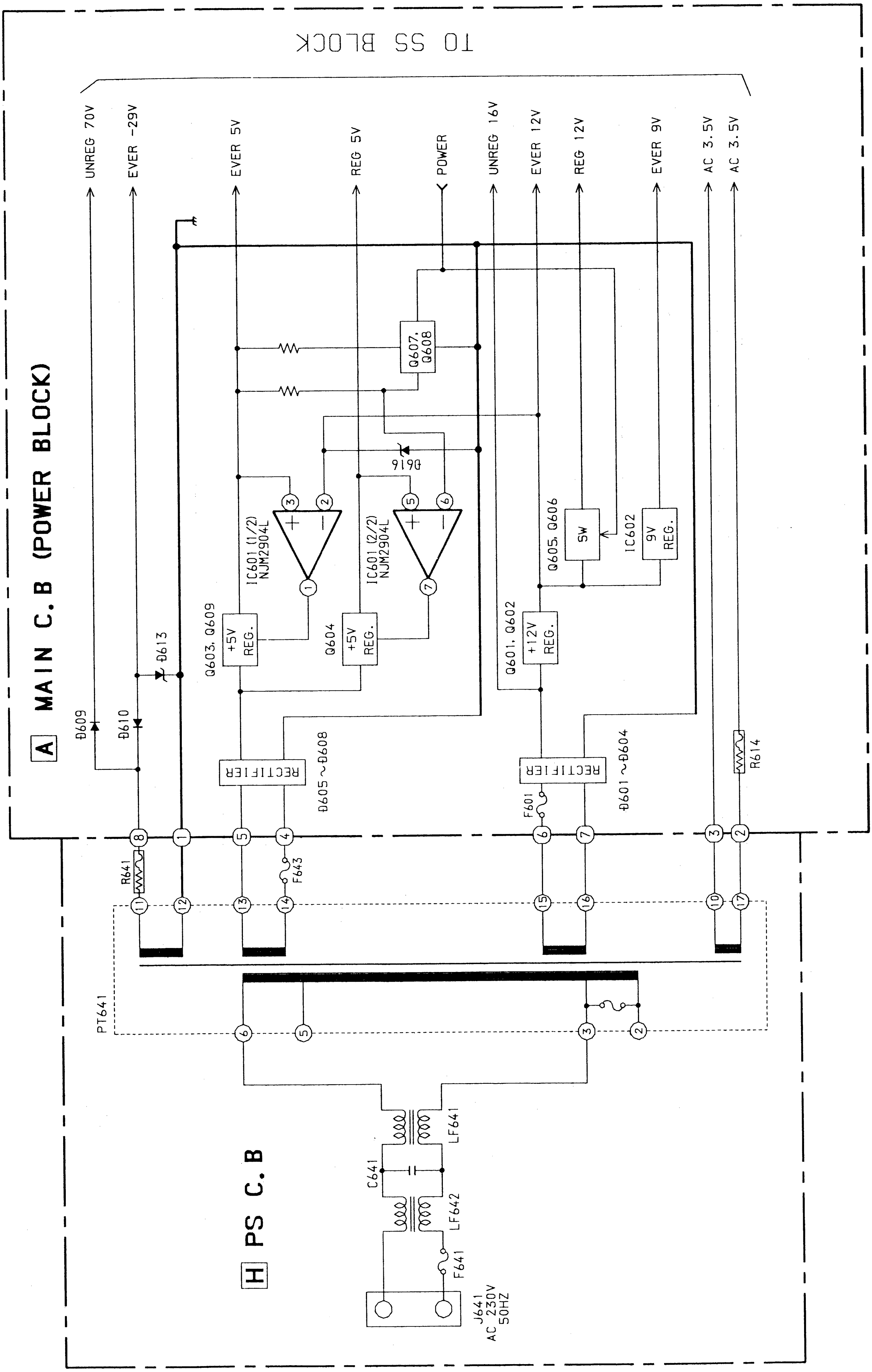
V18987


TO CN802
TUNER BLOCK
CN451
1 SIF
2 TU GND
3 TU R
4 TU GND
5 TU L
6 TU 9V
7 TU 5V
8 TU A
9 REG GND
10 IIC SDA
11 IIC SCK
12 TU GND
X453
5.74MHz
SAW FILTER
BAND PASS
: AUDIO PB
: AUDIO REC
O ZWEITON C.B
STEREO DECODER
IC451
IC. TDA9840
DEEMPHASIS L CH CAP
DEEMPHASIS R CH CAP
500mV RMS
6dB
MUTE
25kΩ
5kΩ
L/A/MONO 250mV RMS
R/B 250mV RMS
0 TO -0.4 dB A/MONO
10kΩ
40kΩ
-2dB
0 TO 4.5 dB
LEVEL 0 TO 4.5dB
STEREO
LEVEL AND STEREO ADJUSTMENT
DUAL BIT
STEREO BIT
I² C-BUS CONTROL
CONTROL LOGIC
DIGITAL INTEGRATOR
POWER ON RESET
DIGITAL PLL AND DEMODULATOR
GENERATION OF REFERENCE VOLTAGE
VREF
DIGITAL PLL
OSCILLATOR
XTAL OSC WITH BUFF.
Q451
SFR451
CHANNEL SEPARATION
1ST SIGNAL AF
2ND SIGNAL AF
L456 PILOT FILTER
DEMODULATOR
IC453
IC. TA8721ASN
FM DETECTOR
REG.
5.74MHz DISCRIMINATOR BAND PASS
1 2 3 4 5 6 7 8 9 10 11 13 14 15 17 19 20

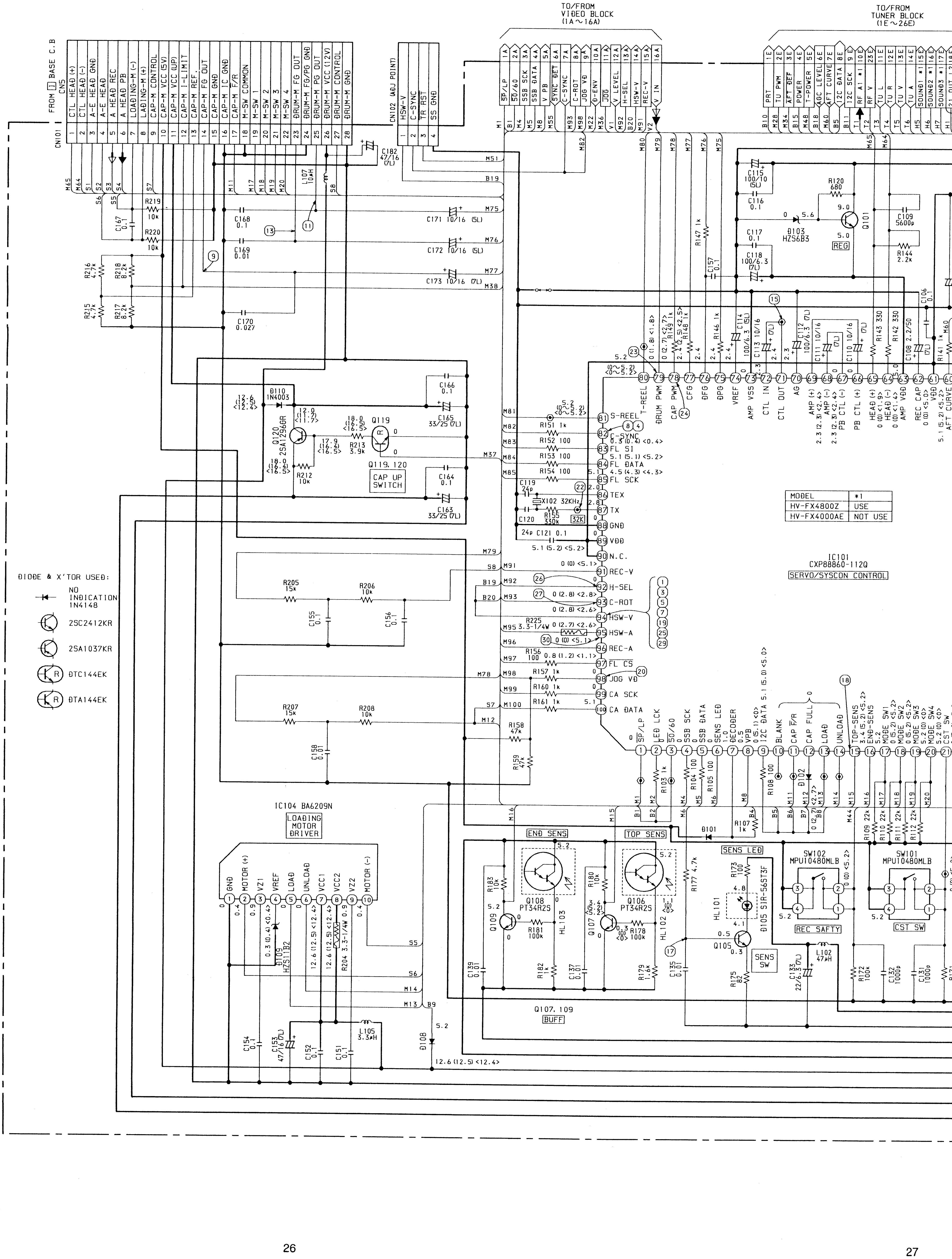
BLOCK DIAGRAM – 7 (SOUND EFFECT)


IC771
IC. BA3880S
BBE
HPF
LPF
CTL
VCA
HI
MID
LO
9V
VOLTAGE CHANGE
Q772
MIX AMP
IC72
IC. AN5285K
NORMAL/MIDNIGHT MODE
LOUT
ROUT
SW
LEVEL SENSOR1
LEVEL SENSOR2
V/I REG.
GND
VREF
LS1
LS2
VCC
12V
50K
LIN
CTL
RIN
SIGNAL:
:AUDIO
IC71
IC. MM1124
DYNAMIC BASS BOOST
SUM AMP
BUFFER AMP
CONTROL
RECTIFIER
V/I
50KΩ TYP
10KΩ TYP
20KΩ TYP
12V
G SD C.B
CN771
TO A MAIN C.B
CN803
1 SOUND1
2 SOUND2
3 SOUND3
4 RF A1
6 21 OUT L1
7 21 OUT R1
9 21 OUT L2
10 21 OUT R2

BLOCK DIAGRAM – 8 (POWER)

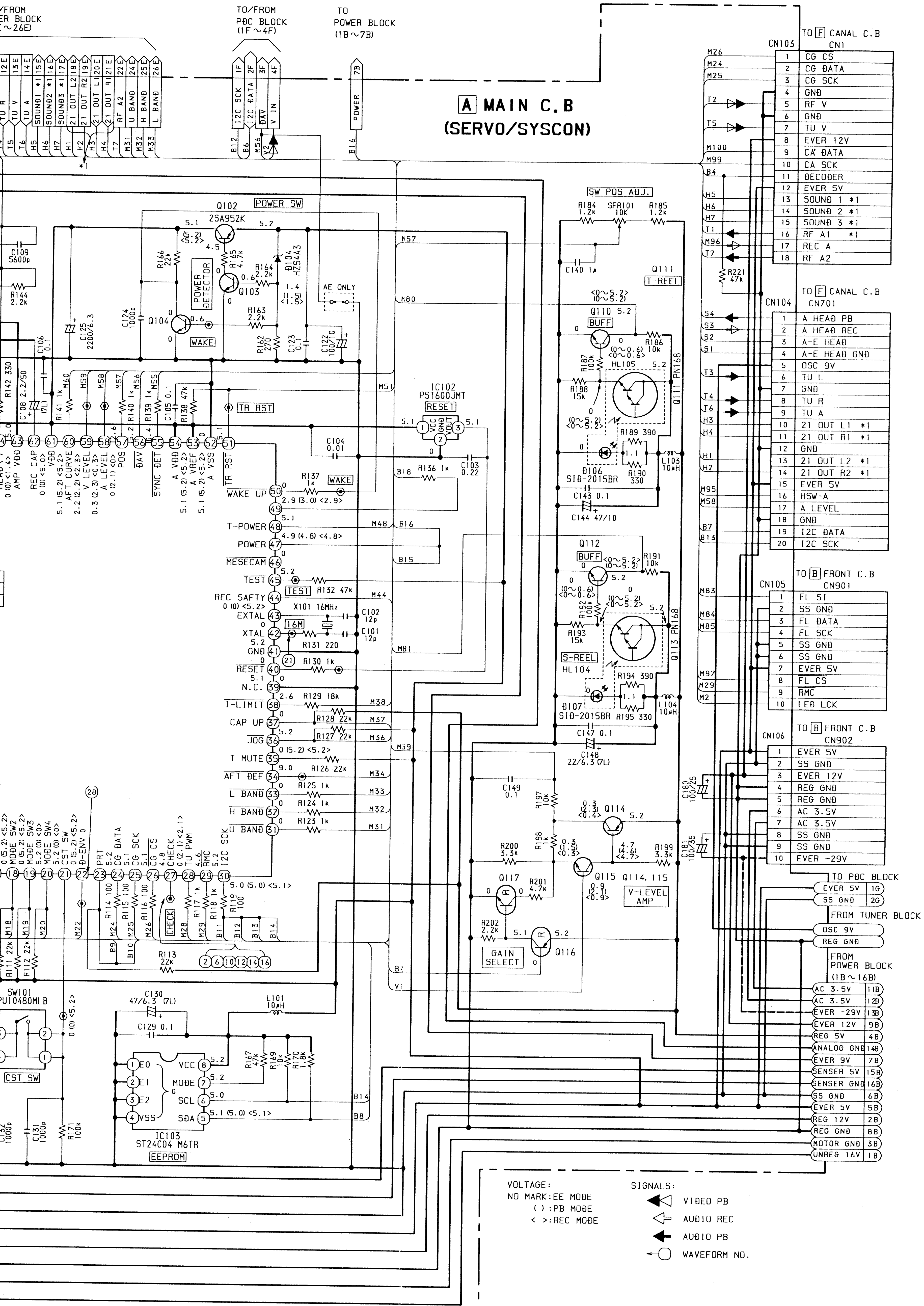

TO SS BLOCK
UNREG 70V
EVER -29V
EVER 5V
REG 5V
POWER
UNREG 16V
EVER 12V
REG 12V
EVER 9V
AC 3.5V
AC 3.5V
A MAIN C.B (POWER BLOCK)
D609
D610
D613
Q607, Q608
D616
IC601 (1/2) NJM2904L
IC601 (2/2) NJM2904L
Q603, Q609
+5V REG.
Q604
+5V REG.
Q605, Q606
SW
IC602
9V REG.
Q601, Q602
+12V REG.
RECTIFIER
D605~D608
RECTIFIER
D601~D604
F601
R614
R641
F643
PT641
H PS C.B
LF641
C641
LF642
F641
J641
AC 230V
50HZ

SCHEMATIC DIAGRAM – 1 (SERVO/SYSCON)

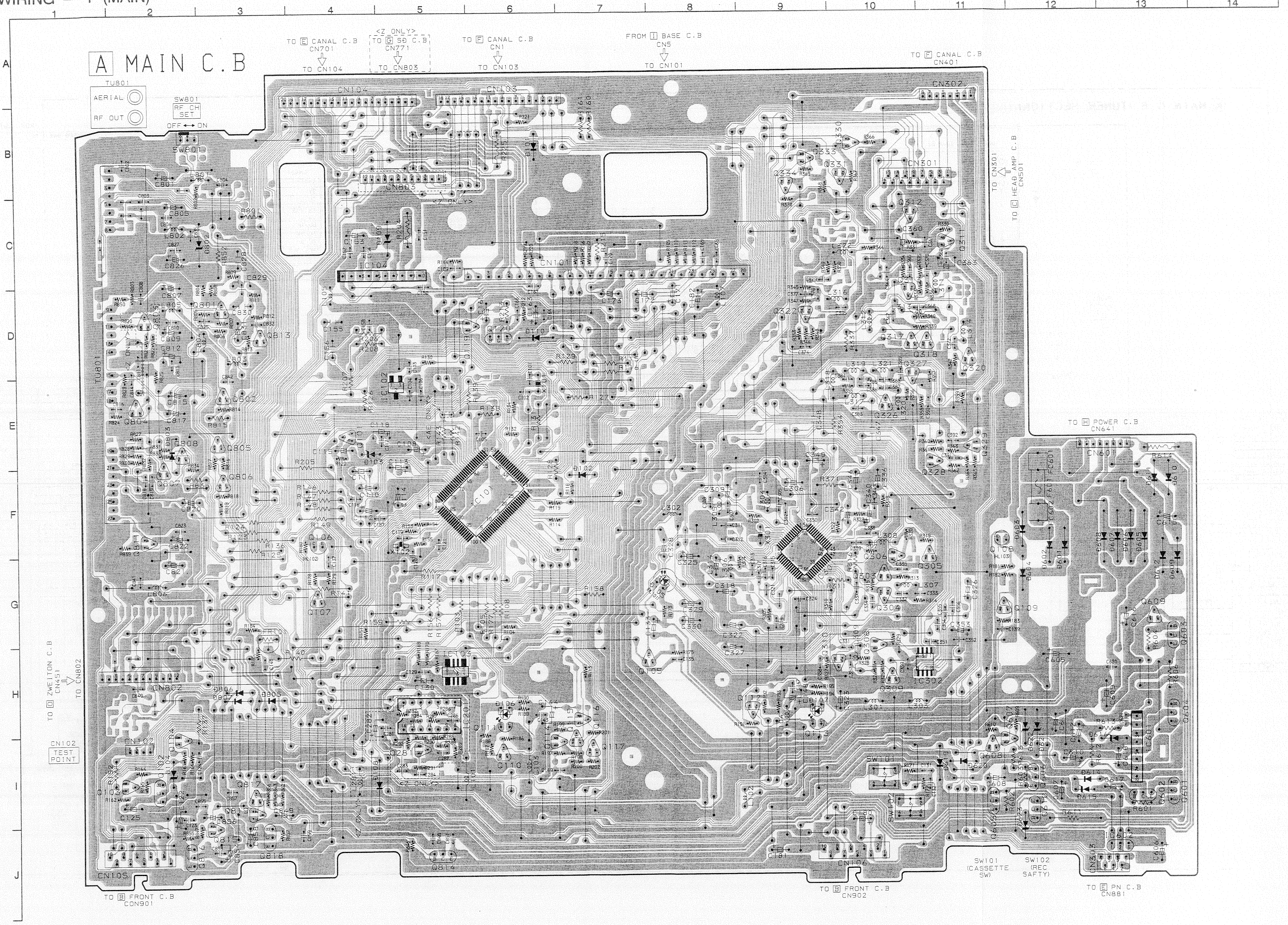


TO/FROM VIDEO BLOCK (1A～16A)
TO/FROM TUNER BLOCK (1E～26E)
FROM 1 BASE C.B CN5
CN101
CTL HEAD (+)
CTL HEAD (-)
A-E HEAD GND
A-E HEAD
A HEAD REC
A HEAD PB
LOADING-M (-)
LOADING-M (+)
CAP-M CONTROL
CAP-M VCC (5V)
CAP-M VCC (UP)
CAP-M I-LIMIT
CAP-M REF.
CAP-M FG OUT
CAP-M GND
CAP-M IC GND
CAP-M F/R
M-SW COMMON
M-SW 1
M-SW 2
M-SW 3
M-SW 4
DRUM-M FG OUT
DRUM-M FG/PG GND
DRUM-M PG OUT
DRUM-M VCC (12V)
DRUM-M CONTROL
DRUM-M GND
CN102 (ADJ POINT)
HSW-V
C-SYNC
TR RST
SS GND
SP/LP
50/60
SSB SCK
SSB DATA
V PB
SYNC DET
C-ROT
JOG VD
D-ENV
JOG
V LEVEL
H-SEL
HSW-V
REC-V
V IN
PRT
TU PWM
AFT DEF
POWER
T-POWER
AGC LEVEL
AFT CURVE
I2C DATA
I2C SCK
RF A1 *1
RF V
TU L
TU R
TU V
TU A
SOUND1 *1
SOUND2 *1
SOUND3 *1
Q119, 120
CAP UP SWITCH
Q120 2SA1296GR
Q119
D110 1N4003
IC101 CXP88860-112Q
SERVO/SYSCON CONTROL
T-REEL
DRUM PWM
CAP PWM
CFG
DFG
VREF
AMP VSS
CTL IN
CTL OUT
AG
AMP (+)
AMP (-)
PB CTL (-)
PB CTL (+)
HEAD (+)
HEAD (-)
AMP VDD
REC CAP
VDD
AFT CURVE
S-REEL
C-SYNC
FL SI
FL DATA
FL SCK
TEX
TX
GND
VDD
N.C.
REC-V
H-SEL
C-ROT
HSW-V
HSW-A
REC-A
FL CS
JOG VD
CA SCK
CA DATA
X102 32KHz
LED LCK
SENS LED
DECODER
VPB
I2C DATA
BLANK
CAP F/R
CAP FULL
LOAD
UNLOAD
TOP-SENS
END-SENS
MODE SW1
MODE SW2
MODE SW3
MODE SW4
CST SW
D101
D102
IC104 BA6209N
LOADING MOTOR DRIVER
GND
MOTOR (+)
VZ1
VREF
LOAD
UNLOAD
VCC1
VCC2
VZ2
MOTOR (-)
D109 HZS11B2
L105 3.3μH
D108
12.6 (12.5) <12.4>
END SENS
TOP SENS
Q108 PT34R2S
Q106 PT34R2S
Q109
Q107
HL103
HL102
Q107, 109
BUFF
SENS LED
HL101
D105 SIR-56ST3F
Q105
SENS SW
L102 47μH
SW102 MPU10480MLB
REC SAFTY
SW101 MPU10480MLB
CST SW
Q101
REG
D103 HZS6B3
DIODE & X'TOR USED:
NO INDICATION 1N4148
2SC2412KR
2SA1037KR
DTC144EK
DTA144EK

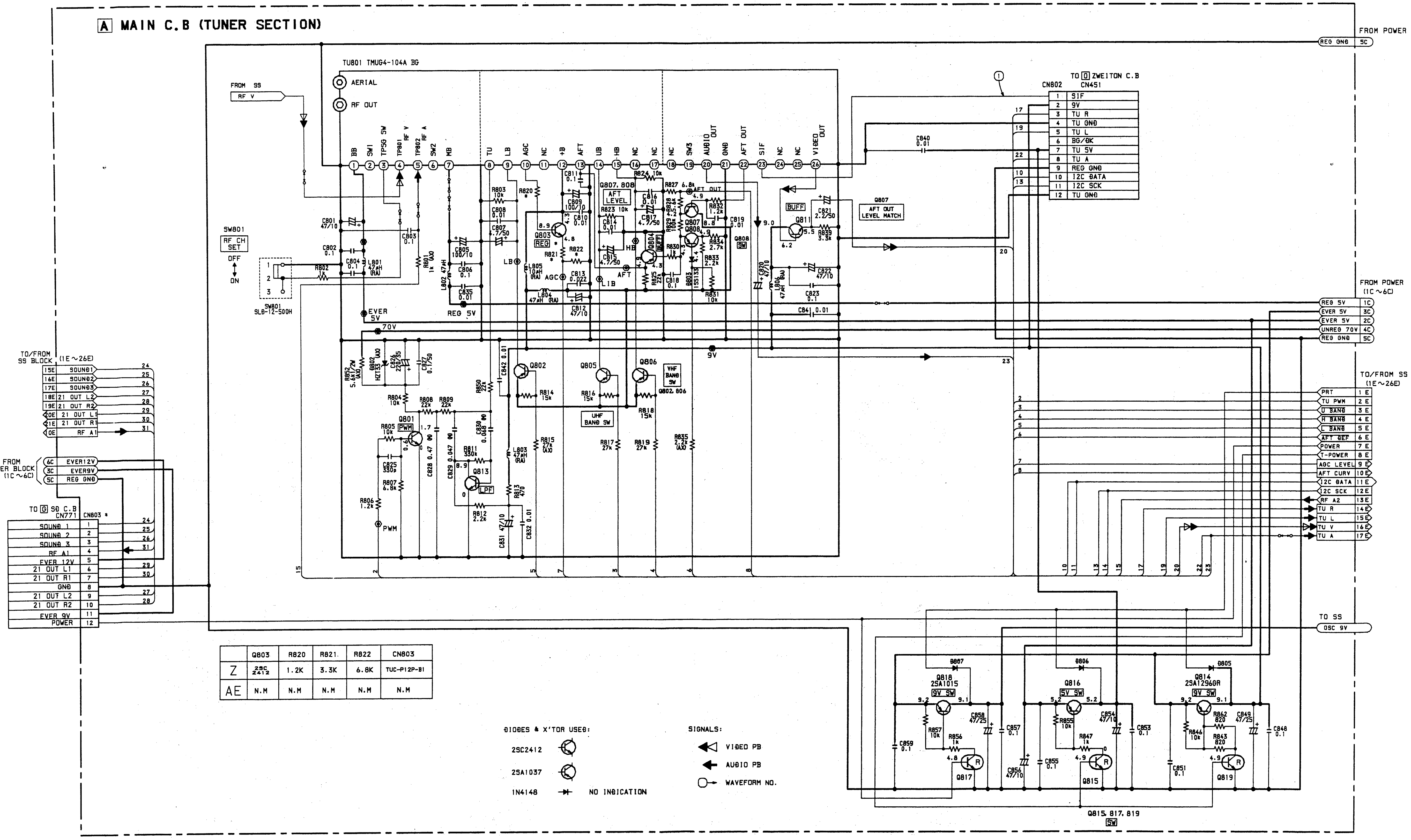
MODEL	*1
HV-FX4800Z	USE
HV-FX4000AE	NOT USE


A MAIN C.B
(SERVO/SYSCON)
TO/FROM PDC BLOCK (1F～4F)
TO POWER BLOCK (1B～7B)
TO F CANAL C.B CN1
CN103
1 CG CS
2 CG DATA
3 CG SCK
4 GND
5 RF V
6 GND
7 TU V
8 EVER 12V
9 CA DATA
10 CA SCK
11 DECODER
12 EVER 5V
13 SOUND 1 *1
14 SOUND 2 *1
15 SOUND 3 *1
16 RF A1 *1
17 REC A
18 RF A2
TO F CANAL C.B CN701
CN104
1 A HEAD PB
2 A HEAD REC
3 A-E HEAD
4 A-E HEAD GND
5 OSC 9V
6 TU L
7 GND
8 TU R
9 TU A
10 21 OUT L1 *1
11 21 OUT R1 *1
12 GND
13 21 OUT L2 *1
14 21 OUT R2 *1
15 EVER 5V
16 HSW-A
17 A LEVEL
18 GND
19 I2C DATA
20 I2C SCK
TO B FRONT C.B CN901
CN105
1 FL SI
2 SS GND
3 FL DATA
4 FL SCK
5 SS GND
6 SS GND
7 EVER 5V
8 FL CS
9 RMC
10 LED LCK
TO B FRONT C.B CN902
CN106
1 EVER 5V
2 SS GND
3 EVER 12V
4 REG GND
5 REG GND
6 AC 3.5V
7 AC 3.5V
8 SS GND
9 SS GND
10 EVER -29V
TO PDC BLOCK
EVER 5V 1G
SS GND 2G
FROM TUNER BLOCK
OSC 9V
REG GND
FROM POWER BLOCK (1B～16B)
AC 3.5V 11B
AC 3.5V 12B
EVER -29V 13B
EVER 12V 9B
REG 5V 4B
ANALOG GND 14B
EVER 9V 7B
SENSER 5V 15B
SENSER GND 16B
SS GND 6B
EVER 5V 5B
REG 12V 2B
REG GND 8B
MOTOR GND 3B
UNREG 16V 1B
Q102 2SA952K POWER SW
Q103 POWER DETECTOR
Q104 WAKE
D104 HZS4A3
AE ONLY
IC102 PST600JMT RESET
TR RST
SW POS ADJ.
R184 1.2k SFR101 10K R185 1.2k
Q111 T-REEL
Q110 BUFF
HL105
D106 SID-2015BR
Q112 BUFF
S-REEL HL104
D107 SID-2015BR
Q114, 115 V-LEVEL AMP
Q117 GAIN SELECT Q116
X101 16MHz 16M
WAKE UP 50
T-POWER 48
POWER 47
MESECAM 46
TEST 45
REC SAFTY 44
EXTAL 43
XTAL 42
GND 41
RESET 40
N.C. 39
I-LIMIT 38
CAP UP 37
JOG 36
T MUTE 35
AFT DEF 34
L BAND 33
H BAND 32
U BAND 31
IC103 ST24C04 M6TR EEPROM
E0 E1 E2 VSS VCC MODE SCL SDA
SW101 PU10480MLB CST SW
CHECK
L101 10μH
C130 47/6.3 (7L)
C129 0.1
VOLTAGE:
NO MARK:EE MODE
( ):PB MODE
< >:REC MODE
SIGNALS:
VIDEO PB
AUDIO REC
AUDIO PB
WAVEFORM NO.

WIRING — 1 (MAIN)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
TU801
AERIAL
RF OUT
SW801
RF CH SET
OFF ↔ ON
TO E CANAL C.B
CN701
TO CN104
<Z ONLY>
TO G SD C.B
CN771
TO CN803
TO F CANAL C.B
CN1
TO CN103
FROM I BASE C.B
CN5
TO CN101
TO F CANAL C.B
CN401
TO C HEAD AMP C.B
CN501
TO CN301
TO H POWER C.B
CN641
TO D ZWEITON C.B
CN451
TO CN802
CN102
TEST POINT
CN104
CN103
CN803
CN101
CN302
CN301
CN601
CN802
CN105
CN106
CN107
IC101
IC102
IC103
IC104
IC201
IC302
SW101
SW102
SW101
(CASSETTE SW)
SW102
(REC SAFTY)
TO B FRONT C.B
CN901
TO B FRONT C.B
CN902
TO E PN C.B
CN881

SCHEMATIC DIAGRAM – 2 (TUNER)


A MAIN C.B (TUNER SECTION)
TU801 TMUG4-104A BG
AERIAL
RF OUT
FROM SS
RF V
SW801
RF CH SET
OFF
ON
SW801 SLB-12-500H
EVER 5V
70V
REG 5V
9V
TO O ZWEITON C.B
CN802
CN451
SIF
9V
TU R
TU GND
TU L
BG/DK
TU 5V
TU A
REG GND
I2C DATA
I2C SCK
TU GND
FROM POWER
REG GND 5C
FROM POWER (1C~6C)
REG 5V 1C
EVER 5V 3C
EVER 5V 2C
UNREG 70V 4C
REG GND 5C
TO/FROM SS (1E~26E)
PRT 1E
TU PWM 2E
U BAND 3E
H BAND 4E
L BAND 5E
AFT DEF 6E
POWER 7E
T-POWER 8E
AGC LEVEL 9E
AFT CURV 10E
I2C DATA 11E
I2C SCK 12E
RF A2 13E
TU R 14E
TU L 15E
TU V 16E
TU A 17E
TO SS
OSC 9V
TO/FROM SS BLOCK (1E~26E)
15E SOUND1
16E SOUND2
17E SOUND3
18E 21 OUT L2
19E 21 OUT R2
20E 21 OUT L1
21E 21 OUT R1
22E RF A1
FROM POWER BLOCK (1C~6C)
6C EVER12V
3C EVER9V
5C REG GND
TO G SD C.B
CN771
CN803 *
1 SOUND 1
2 SOUND 2
3 SOUND 3
4 RF A1
5 EVER 12V
6 21 OUT L1
7 21 OUT R1
8 GND
9 21 OUT L2
10 21 OUT R2
11 EVER 9V
12 POWER
AFT OUT LEVEL MATCH
AFT LEVEL
VHF BAND SW
UHF BAND SW
Q802, 806
Q801
Q802
Q803
Q805
Q806
Q807, 808
Q811
Q813
Q814 2SA1296GR
Q816
Q818 2SA1015
Q815
Q817
Q819
Q815, 817, 819 SW
9V SW
5V SW
D805
D806
D807
PWM
LPF
BUFF
REG
HB
LB
AFT
AGC
L1B

	Q803	R820	R821	R822	CN803
Z	2SC 2412	1.2K	3.3K	6.8K	TUC-P12P-B1
AE	N.M	N.M	N.M	N.M	N.M

DIODES & X'TOR USED:

2SC2412

2SA1037

1N4148 NO INDICATION

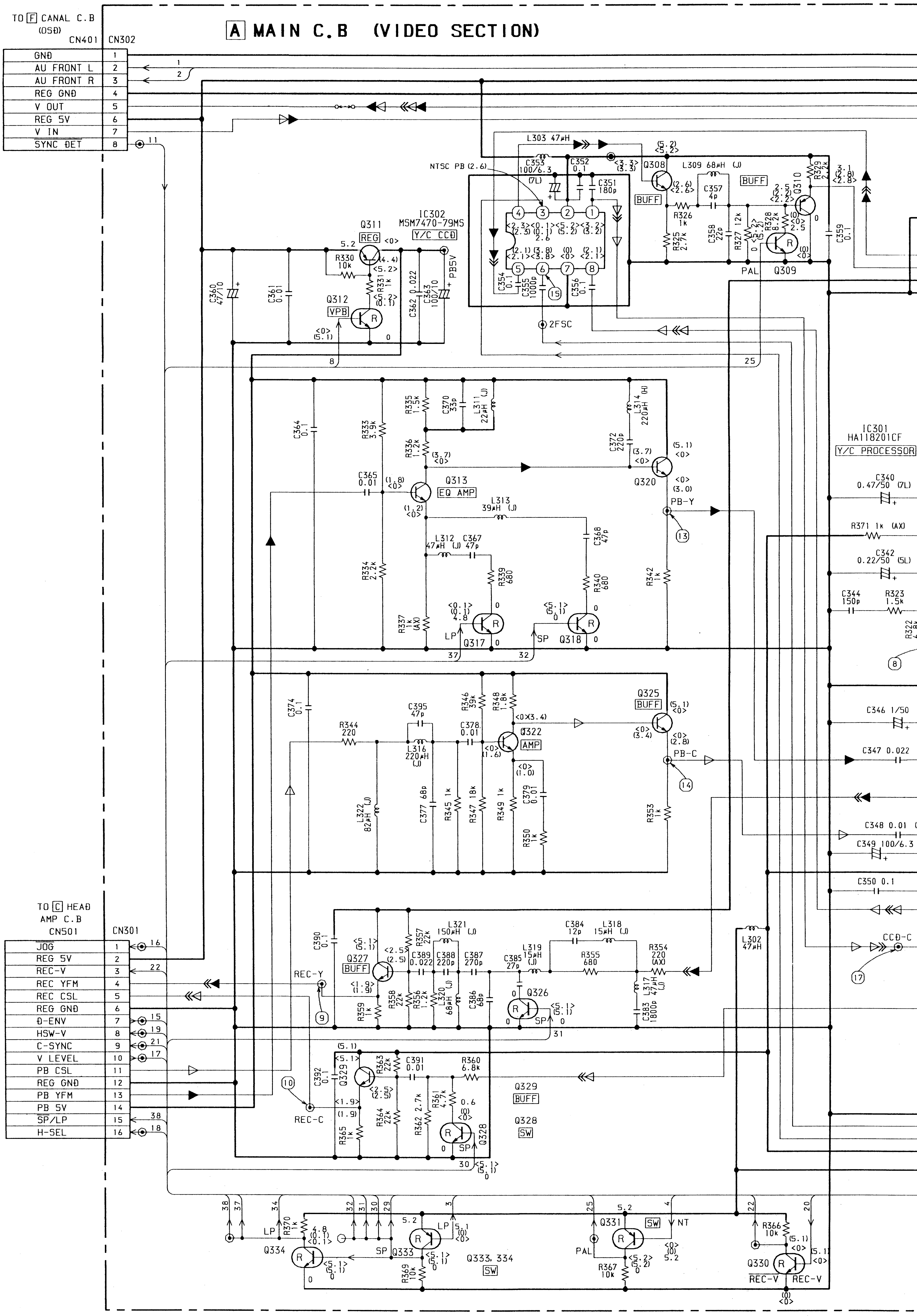
SIGNALS:

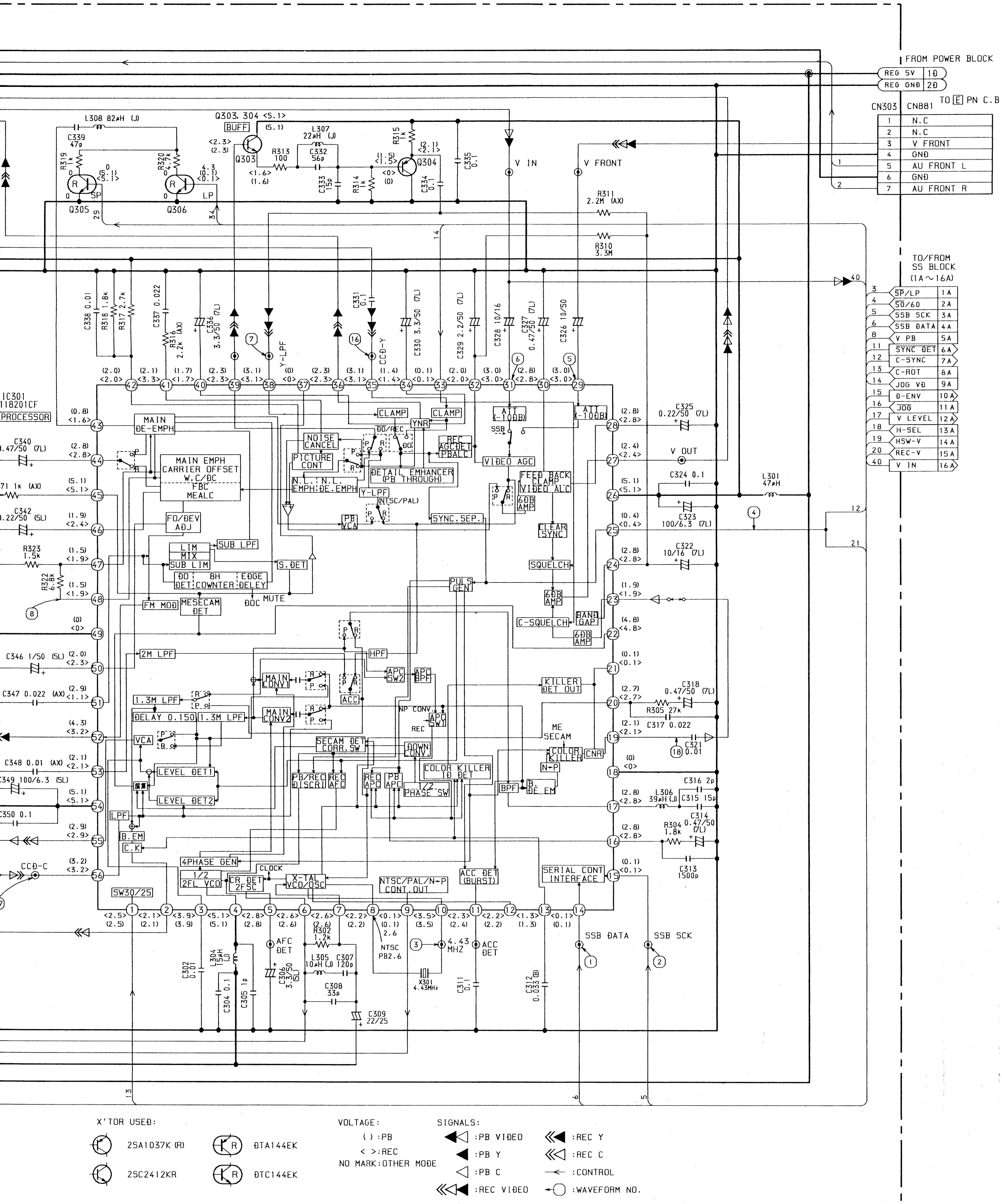
◀ VIDEO PB

← AUDIO PB

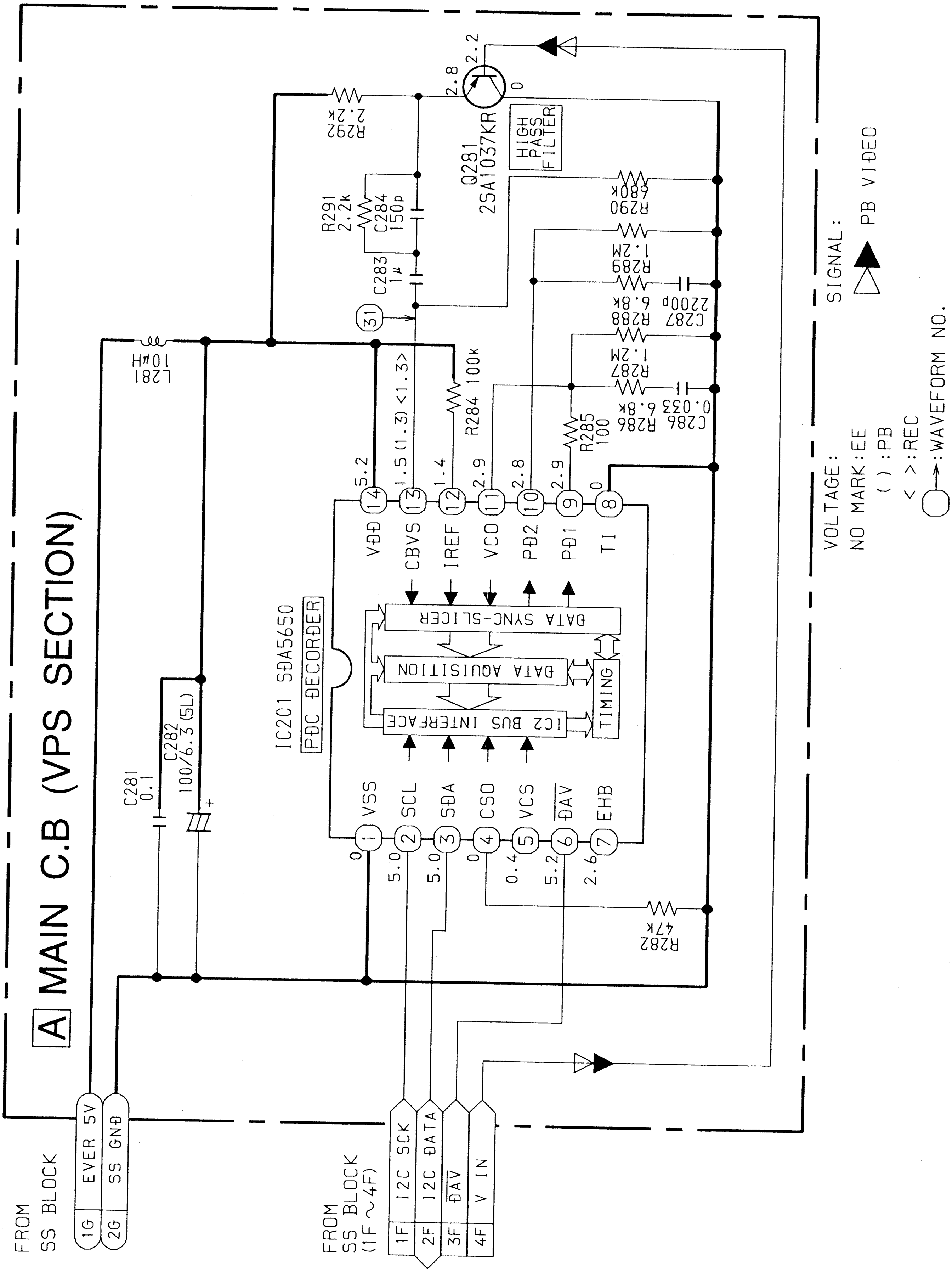
○→ WAVEFORM NO.

SCHEMATIC DIAGRAM – 3 (VIDEO)


A MAIN C.B (VIDEO SECTION)
TO F CANAL C.B (OSD)
CN401
CN302
GND
AU FRONT L
AU FRONT R
REG GND
V OUT
REG 5V
V IN
SYNC DET
L303 47μH
NTSC PB (2.6)
C353 100/6.3
C352 0.1
C351 180p
Q308
BUFF
L309 68μH (J)
C357 4p
R326 1k
R325 2.7k
C358 22p
R327 12k
R328 8.2k
R329 2.2k
Q310
BUFF
Q309
PAL
C359 0.1
IC302 MSM7470-79MS
Y/C CCD
Q311
REG
R330 10k
R331 1k
Q312
VPB
C360 47/10
C361 0.01
C362 0.022
C363 100/10
PB5V
C354
C355 1000p
C356 0.1
2FSC
IC301 HA118201CF
Y/C PROCESSOR
C340 0.47/50 (7L)
R371 1k (AX)
C342 0.22/50 (5L)
C344 150p
R323 1.5k
C364 0.1
R333 3.9k
R335 1.5k
C370 33p
L311 22μH (J)
L314 220μH (H)
R336 1.2k
C372 220p
C365 0.01
Q313
EQ AMP
Q320
PB-Y
L313 39μH (J)
L312 47μH (J)
C367 47p
C368 47p
R334 2.2k
R339 680
R340 680
R342 1k
R337 1k (AX)
LP
Q317
SP
Q318
C374 0.1
R344 220
C395 47p
L316 220μH (J)
C378 0.01
R346 39k
R348 1.8k
Q322
AMP
Q325
BUFF
PB-C
L322 82μH (J)
C377 68p
R345 1k
R347 18k
R349 1k
C379 0.01
R350 1k
R353 1k
C346 1/50
C347 0.022
C348 0.01
C349 100/6.3
C350 0.1
L302 47μH
CCD-C
TO C HEAD AMP C.B
CN501
CN301
JOG
REG 5V
REC-V
REC YFM
REC CSL
REG GND
D-ENV
HSW-V
C-SYNC
V LEVEL
PB CSL
REG GND
PB YFM
PB 5V
SP/LP
H-SEL
C390 0.1
Q327
BUFF
REC-Y
R357 22k
L321 150μH (J)
C389 0.022
C388 220p
C387 270p
C385 27p
L319 15μH (J)
C384 12p
L318 15μH (J)
R355 680
R354 220 (AX)
L317 47μH (J)
C383 1800p
R359
R358 22k
R356 1.2k
L320 68μH (J)
C386 68p
Q326
C392 0.1
Q329
R363 22k
C391 0.01
R360 6.8k
Q329 BUFF
Q328 SW
REC-C
R365 1k
R364 22k
R362 2.7k
R361 4.7k
Q328
R370 1k
Q334
Q333
R369 10k
Q333, 334 SW
Q331
SW
NT
PAL
R367 10k
R366 10k
Q330
REC-V
REC-V

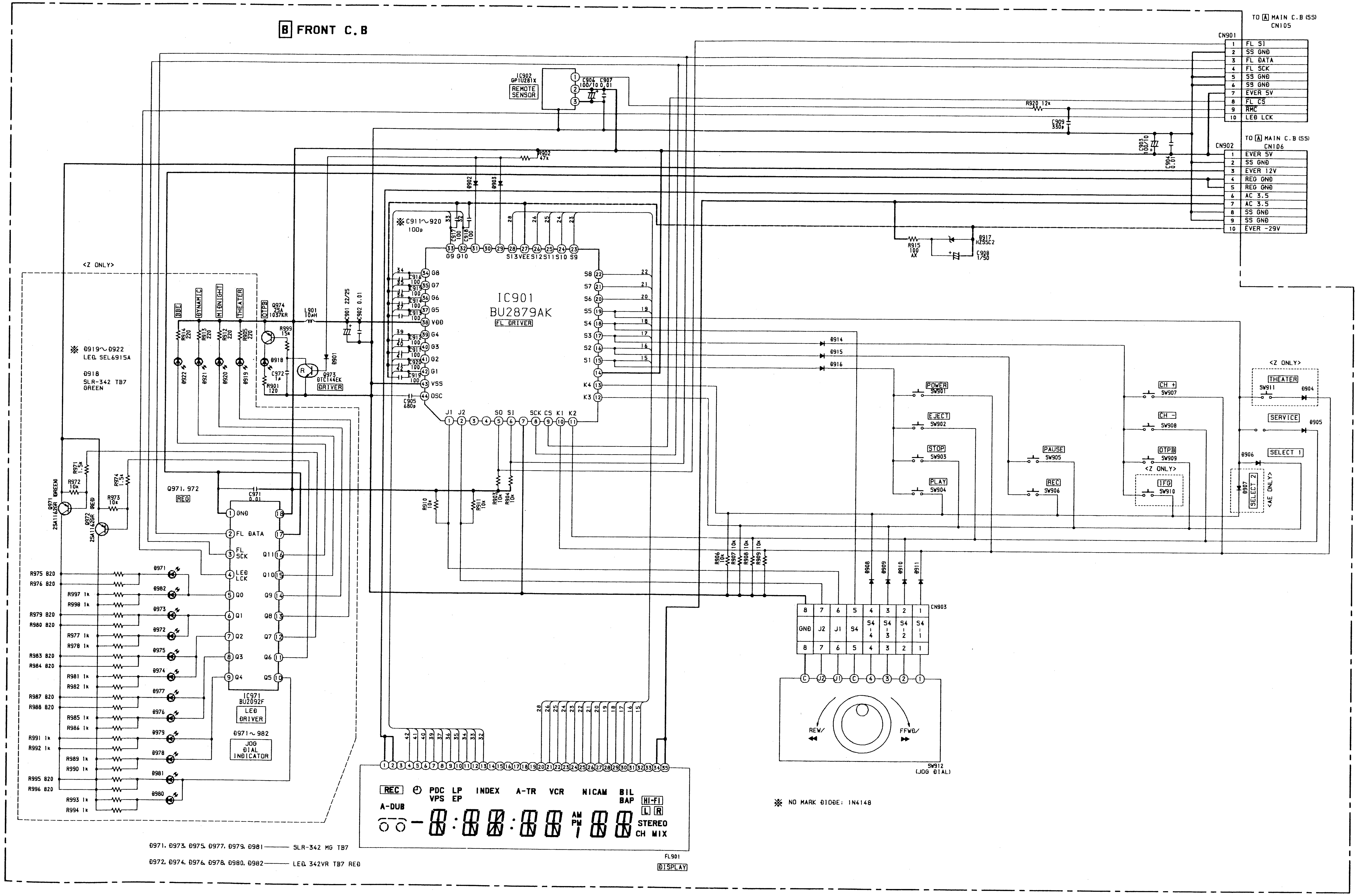

FROM POWER BLOCK
REG 5V 1D
REG GND 2D
CN303 CN881 TO E PN C.B
1 N.C
2 N.C
3 V FRONT
4 GND
5 AU FRONT L
6 GND
7 AU FRONT R
TO/FROM SS BLOCK (1A～16A)
SP/LP 1A
50/60 2A
SSB SCK 3A
SSB DATA 4A
V PB 5A
SYNC DET 6A
C-SYNC 7A
C-ROT 8A
JOG VD 9A
D-ENV 10A
JOG 11A
V LEVEL 12A
H-SEL 13A
HSW-V 14A
REC-V 15A
V IN 16A
IC301 118201CF PROCESSOR
Q303, 304 <5.1>
BUFF
Q303
Q304
Q305
Q306
L308 82μH (J)
C339 47p
R319 1k
R320 4.7k
L307 22μH (J)
C332 56p
R313 100
C333 15p
R314 1k
R315 1k
C334 0.1
C335 0.1
V IN
V FRONT
R311 2.2M (AX)
R310 3.3M
C338 0.01
R318 1.8k
R317 2.7k
C337 0.022
R316 2.2k (AX)
C336 3.3/50 (7L)
Y-LPF
C331 0.1
CCD-Y
C330 3.3/50 (7L)
C329 2.2/50 (7L)
C328 10/16
C327 0.47/50 (7L)
C326 10/50
MAIN DE-EMPH
MAIN EMPH CARRIER OFFSET W.C/DC
FBC MEALC
FO/DEV ADJ
LIM MIX SUB LIM
SUB LPF
S.DET
DO DET 8H COWNTER EDGE DELEY
FM MOD
MESECAM DET
DOC MUTE
NOISE CANCEL
PICTURE CONT
N.L. EMPH
N.L. DE.EMPH
CLAMP
YNR
DO/REC
REC AGCDET PBALC
DETAIL EMHANCER (PB THROUGH)
Y-LPF
NTSC/PAL
PB VCA
SYNC.SEP.
ATT (-10DB)
SSB
VIDEO AGC
FEED BACK CLAMP VIDEO ALC
6DB AMP
CLEAR SYNC
SQUELCH
C-SQUELCH
BAND GAP
PULS GEN
2M LPF
HPF
APC SW2
APC BPF
ACC
MAIN CONV1
MAIN CONV2
NP CONV
APC SW1
REC
1.3M LPF
DELAY 0.150
VCA
LEVEL DET1
LEVEL DET2
SECAM DET CORR.SW
DOWN CONV
PB/REC DISCRI
REC AFC
REC APC
PB APC
COLOR KILLER ID DET
1/2 PHASE SW
KILLER DET OUT
ME SECAM
COLOR KILLER
CNR
N-P
BPF
B. DE EM
LPF
B.EM
C.K
4PHASE GEN
CLOCK
1/2 2FL VCO
CR DET 2FSC
X-TAL VCO/OSC
NTSC/PAL/N-P CONT.OUT
ACC DET (BURST)
SERIAL CONT INTERFACE
SW30/25
C325 0.22/50 (7L)
V OUT
C324 0.1
L301 47μH
C323 100/6.3 (7L)
C322 10/16 (7L)
C318 0.47/50 (7L)
R305 27k
C317 0.022
C321 0.01
C316 2p
L306 39μH (J)
C315 15p
C314 0.47/50 (7L)
R304 1.8k
C313 1500p
C340 0.47/50 (7L)
1k (AX)
C342 0.22/50 (5L)
R323 1.5k
R322 6.8k
C346 1/50 (5L)
C347 0.022 (AX)
C348 0.01 (AX)
C349 100/6.3 (5L)
C350 0.1
CCD-C
C302 0.01
L304 15μH (J)
C304 0.1
C305 1p
AFC DET
C306 3.3/50 (5L)
R302 1.2k
L305 10μH (J)
C307 120p
C308 33p
C309 22/25
NTSC PB2.6
X301 4.43MHz
4.43 MHZ
ACC DET
C311 0.1
C312 0.033 (B)
SSB DATA
SSB SCK
X'TOR USED:
2SA1037K (R)
2SC2412KR
DTA144EK
DTC144EK
VOLTAGE:
( ) :PB
< > :REC
NO MARK:OTHER MODE
SIGNALS:
:PB VIDEO
:PB Y
:PB C
:REC VIDEO
:REC Y
:REC C
:CONTROL
:WAVEFORM NO.

SCHEMATIC DIAGRAM – 4 (VPS : Z ONLY)


A MAIN C.B (VPS SECTION)
IC201 SDA5650
PDC DECORDER
DATA SYNC-SLICER
DATA AQUISITION
IC2 BUS INTERFACE
TIMING
VSS
SCL
SDA
CSO
VCS
DAV
EHB
VDD
CBVS
IREF
VCO
PD2
PD1
TI
Q281
2SA1037KR
HIGH PASS FILTER
R292 2.2k
R291 2.2k
C284 150p
C283 1μ
R290 680k
R289 1.2M
R288 6.8k
C287 2200p
R287 1.2M
R286 6.8k
C286 0.033
R285 100
R284 100k
R282 47k
L281 10μH
C281 0.1
C282 100/6.3 (5L)
5.2
1.5 (1.3) <1.3>
1.4
2.9
2.8
2.9
0
5.0
5.0
0
0.4
5.2
2.6
2.8
2.2
0
31
FROM SS BLOCK
1G EVER 5V
2G SS GND
FROM SS BLOCK (1F～4F)
1F I2C SCK
2F I2C DATA
3F DAV
4F V IN
SIGNAL: PB VIDEO
VOLTAGE:
NO MARK: EE
( ): PB
< >: REC
: WAVEFORM NO.

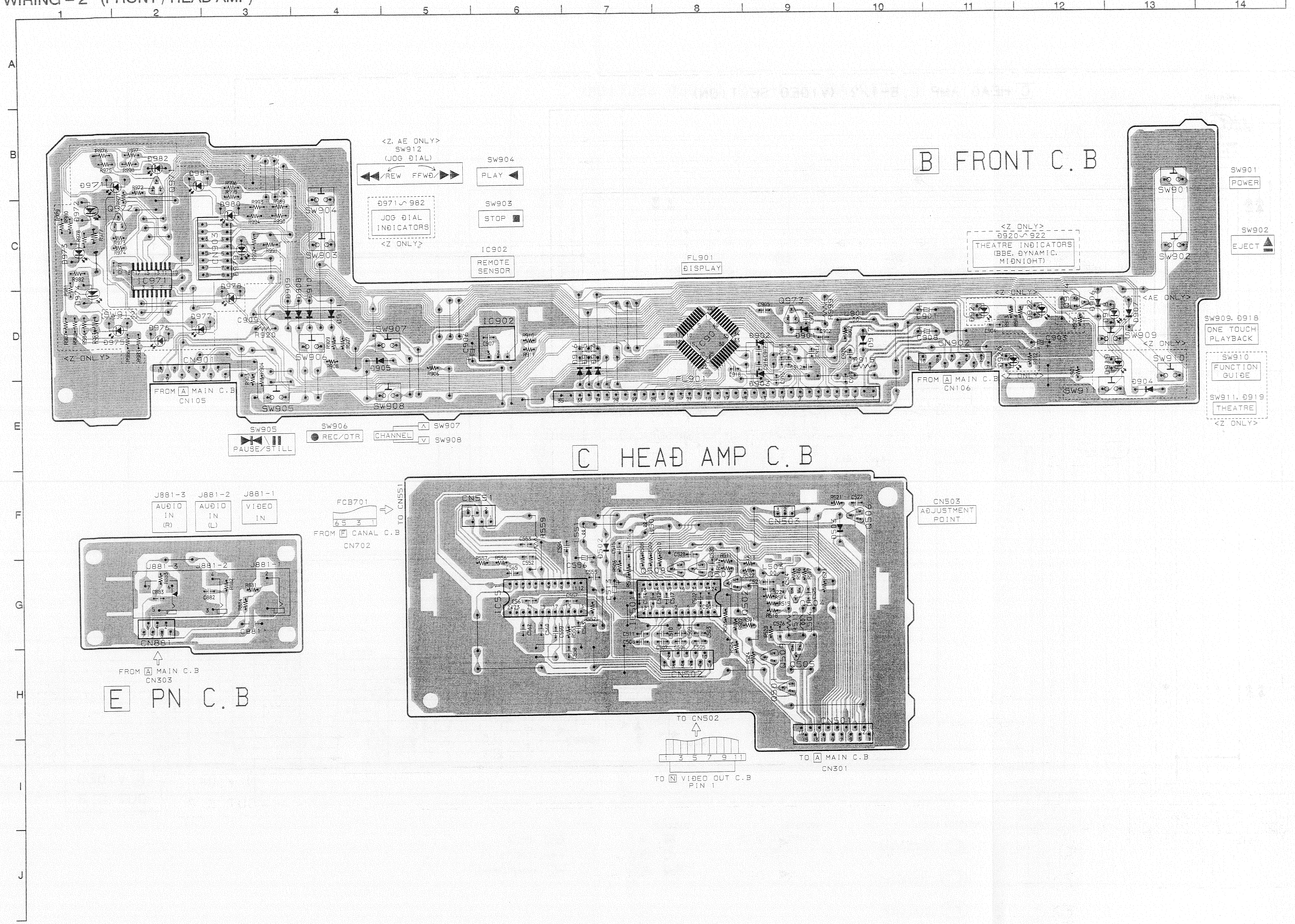
SCHEMATIC DIAGRAM – 5 (FRONT)

< > : REC
○→ : WAVEFORM NO.

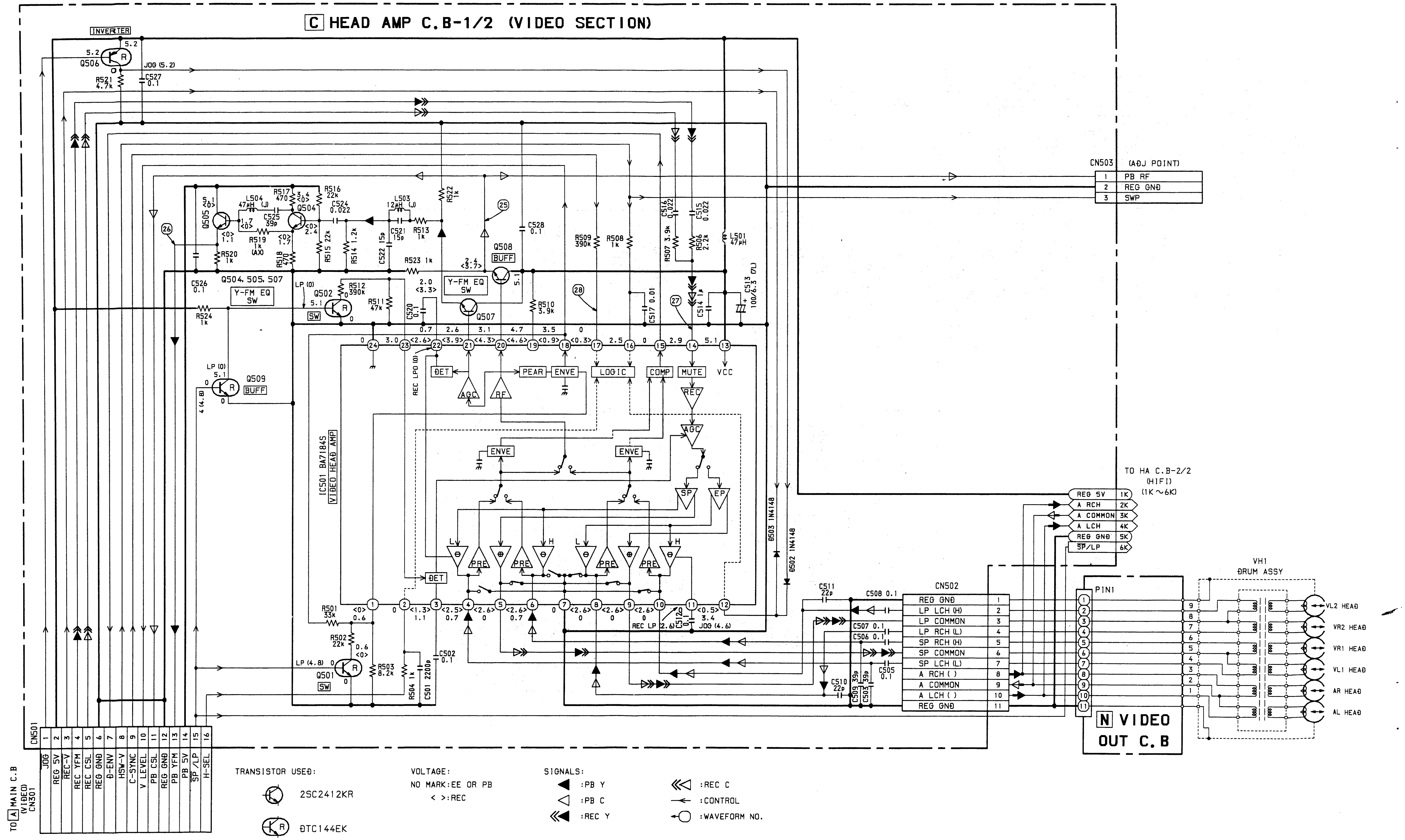


B FRONT C.B
TO A MAIN C.B (SS) CN105
CN901
1 FL S1
2 SS GND
3 FL DATA
4 FL SCK
5 SS GND
6 SS GND
7 EVER 5V
8 FL CS
9 RMC
10 LED LCK
TO A MAIN C.B (SS) CN106
CN902
1 EVER 5V
2 SS GND
3 EVER 12V
4 REG GND
5 REG GND
6 AC 3.5
7 AC 3.5
8 SS GND
9 SS GND
10 EVER -29V
IC902 GP1U281X REMOTE SENSOR
C906 C907 100/10 0.01
R920 12k
C909 330p
C903 100/10
C904 0.01
R902 47k
D902
D903
D917 HZ5SC2
R915 100 AX
C908 1/50
※C911~920 100p
IC901 BU2879AK FL DRIVER
<Z ONLY>
BBE
DYNAMIC
MIDNIGHT
THEATER
OTPB
Q974 2SA1037KR
R999 15k
L901 10μH
C901 22/25
C902 0.01
D901
Q973 DTC144EK DRIVER
R901 120
C905 680p
※ D919~D922 LED SEL6915A
D918 SLR-342 TB7 GREEN
Q971 2SA1162GR GREEN
Q972 2SA1162GR RED
R971 1.5k
R972 10k
R973 10k
R974 1.5k
Q971, 972 REG
C971 0.01
IC971 BU2092F LED DRIVER
D971~982 JOG DIAL INDICATOR
R910 10k
R911 10k
R903 10k
R904 10k
R906 10k
R907 10k
R908 10k
R909 10k
D914
D915
D916
POWER SW901
EJECT SW902
STOP SW903
PLAY SW904
PAUSE SW905
REC SW906
CH + SW907
CH − SW908
OTPB SW909
<Z ONLY>
IFG SW910
THEATER SW911 D904
SERVICE D905
D906 SELECT 1
D907 SELECT 2 <AE ONLY>
D908 D909 D910 D911
CN903
GND J2 J1 S4
REW/
FFWD/
SW912 (JOG DIAL)
※ NO MARK DIODE: 1N4148
REC A-DUB PDC VPS LP EP INDEX A-TR VCR NICAM BIL BAP HI-FI L R STEREO CH MIX AM PM
FL901 DISPLAY
D971, D973, D975, D977, D979, D981 —— SLR-342 MG TB7
D972, D974, D976, D978, D980, D982 —— LED 342VR TB7 RED

WIRING – 2 (FRONT / HEAD AMP)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
B FRONT C.B
<Z, AE ONLY>
SW912
(JOG DIAL)
/REW FFWD/
SW904
PLAY
D971∽982
JOG DIAL INDICATORS
<Z ONLY>
SW903
STOP
IC902
REMOTE SENSOR
FL901
DISPLAY
<Z ONLY>
D920∽922
THEATRE INDICATORS (BBE, DYNAMIC, MIDNIGHT)
SW901
POWER
SW902
EJECT
SW909, D918
ONE TOUCH PLAYBACK
SW910
FUNCTION GUIDE
SW911, D919
THEATRE
<Z ONLY>
<AE ONLY>
FROM A MAIN C.B
CN105
FROM A MAIN C.B
CN106
SW905
PAUSE/STILL
SW906
REC/OTR
SW907
SW908
CHANNEL
IC971
CN903
CN901
CN902
IC901
C HEAD AMP C.B
J881-3
AUDIO IN (R)
J881-2
AUDIO IN (L)
J881-1
VIDEO IN
FCB701
6 5 3 1
TO CN551
FROM F CANAL C.B
CN702
CN551
CN503
ADJUSTMENT POINT
CN502
CN501
IC551
IC501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
TO CN502
1 3 5 7 9 11
TO N VIDEO OUT C.B
PIN 1
TO A MAIN C.B
CN301
E PN C.B
CN881
FROM A MAIN C.B
CN303

SCHEMATIC DIAGRAM – 6 (HEAD AMP –VIDEO)


C HEAD AMP C.B-1/2 (VIDEO SECTION)
INVERTER
Q506
R521 4.7k
C527 0.1
JOG (5.2)
Q505
L504 47μH (J)
R517 470
C525 39p
Q504
R516 22k
C524 0.022
R519 1k (AX)
R520 1k
R518 470
R515 22k
R514 1.2k
L503 12μH (J)
C521 15p
C522 15p
R513 1k
R522 1k
R523 1k
Q508 BUFF
C528 0.1
Y-FM EQ SW
Q507
R510 3.9k
C520 0.1
Q504, 505, 507
Y-FM EQ SW
C526 0.1
R524 1k
Q502
R512 390k
R511 47k
SW
LP (0)
Q509 BUFF
R509 390k
R508 1k
R507 3.9k
R506 2.2k
C514 0.022
C515 0.022
L501 47μH
C517 0.01
C514 1μ
C513 100/6.3 (TL)
IC501 BA7184S VIDEO HEAD AMP
DET
AGC
RF
PEAR
ENVE
LOGIC
COMP
MUTE
REC
VCC
SP
EP
PRE
REC LPO (0)
D503 1N4148
D502 1N4148
R501 33k
R502 22k
R503 8.2k
R504 1k
C501 2200p
C502 0.1
Q501 SW
LP (4.8)
C511 22p
C508 0.1
C507 0.1
C506 0.1
C505 0.1
C510 22p
C509 39p
C503 39p
REC LP
JOG (4.6)
CN503 (ADJ POINT)
1 PB RF
2 REG GND
3 SWP
TO HA C.B-2/2 (HIFI) (1K~6K)
REG 5V 1K
A RCH 2K
A COMMON 3K
A LCH 4K
REG GND 5K
SP/LP 6K
CN502
1 REG GND
2 LP LCH (H)
3 LP COMMON
4 LP RCH (L)
5 SP RCH (H)
6 SP COMMON
7 SP LCH (L)
8 A RCH ( )
9 A COMMON
10 A LCH ( )
11 REG GND
PIN1
N VIDEO OUT C.B
VH1 DRUM ASSY
VL2 HEAD
VR2 HEAD
VR1 HEAD
VL1 HEAD
AR HEAD
AL HEAD
CN501
1 JOG
2 REG 5V
3 REC-V
4 REC YFM
5 REC CSL
6 REG GND
7 D-ENV
8 HSW-V
9 C-SYNC
10 V LEVEL
11 PB CSL
12 REG GND
13 PB YFM
14 PB 5V
15 SP/LP
16 H-SEL
TO A MAIN C.B (VIDEO) CN301

TRANSISTOR USED:

2SC2412KR

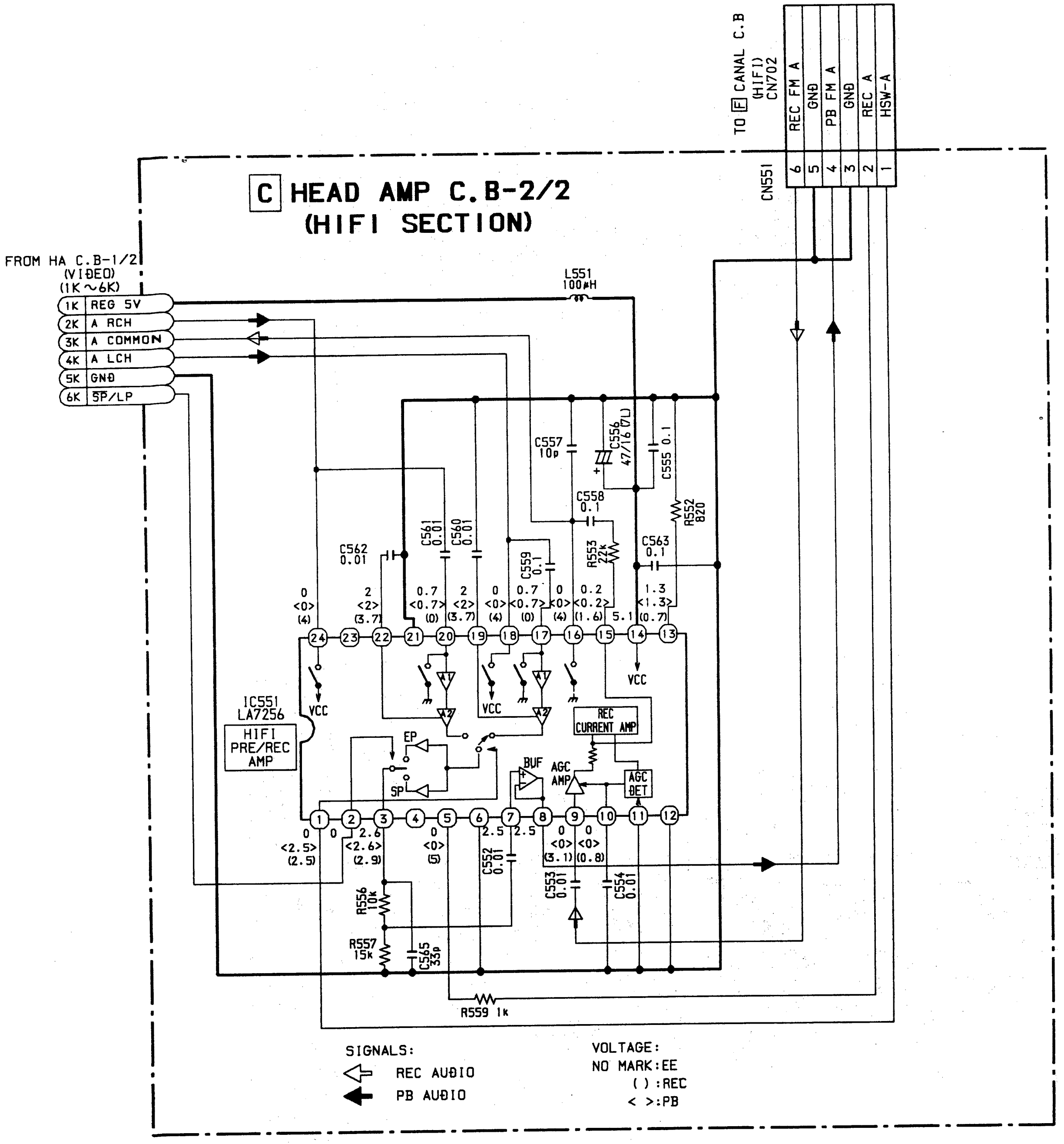
DTC144EK

DTA144EK

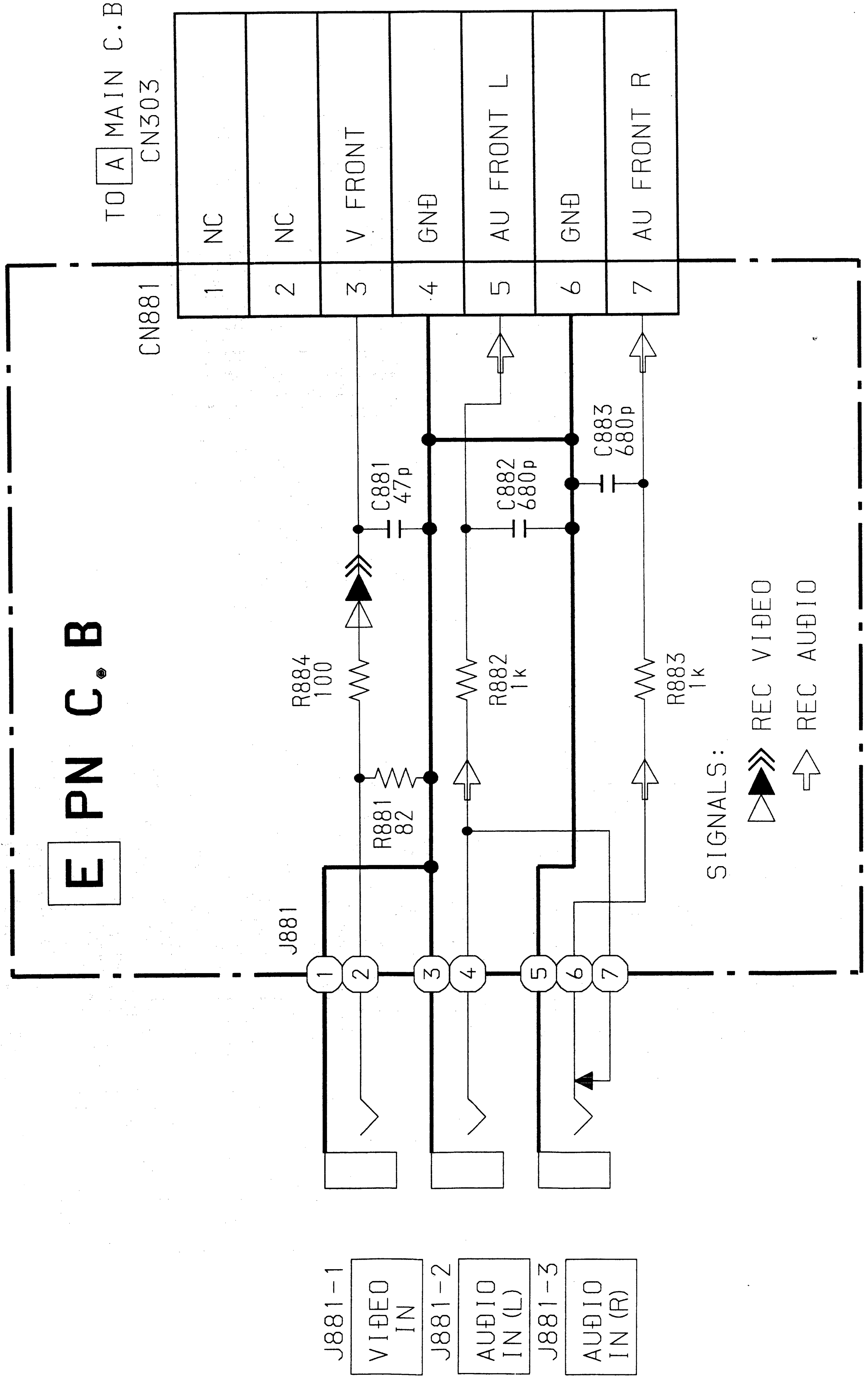
VOLTAGE:
NO MARK:EE OR PB
< >:REC

SIGNALS:
◀ :PB Y
◁ :PB C
◀◀ :REC Y
◁◁ :REC C
← :CONTROL
←○ :WAVEFORM NO.

SCHEMATIC DIAGRAM – 7 (HEAD AMP – HIFI)

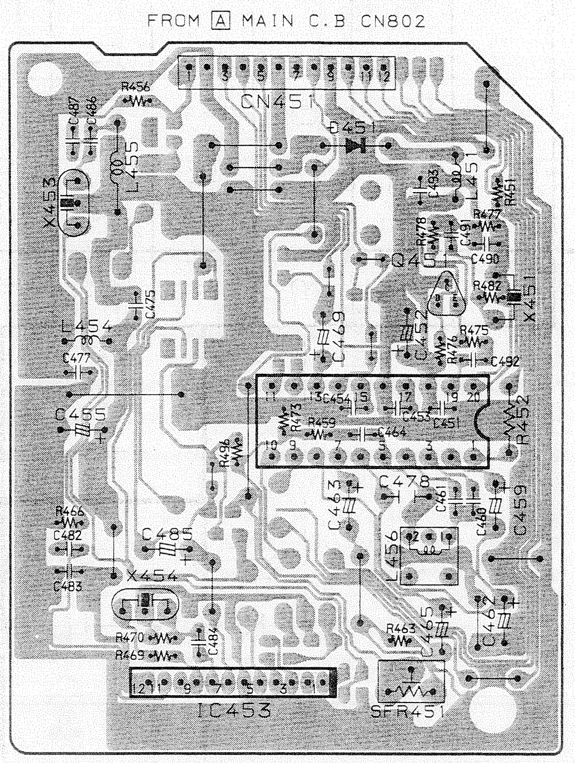

C HEAD AMP C.B-2/2
(HIFI SECTION)
TO F CANAL C.B (HIFI) CN702
REC FM A
GND
PB FM A
GND
REC A
HSW-A
CN551
FROM HA C.B-1/2 (VIDEO) (1K~6K)
1K REG 5V
2K A RCH
3K A COMMON
4K A LCH
5K GND
6K SP/LP
L551 100μH
C557 10p
C556 47/16 (7L)
C555 0.1
C558 0.1
R552 820
C563 0.1
R553 22k
C559 0.1
C560 0.01
C561 0.01
C562 0.01
IC551 LA7256
HIFI PRE/REC AMP
VCC
EP
SP
BUF
AGC AMP
AGC DET
REC CURRENT AMP
C552 0.01
C553 0.01
C554 0.01
R556 10k
R557 15k
C565 33p
R559 1k
SIGNALS:
REC AUDIO
PB AUDIO
VOLTAGE:
NO MARK:EE
( ) :REC
< >:PB

SCHEMATIC DIAGRAM – 8 (JACK)

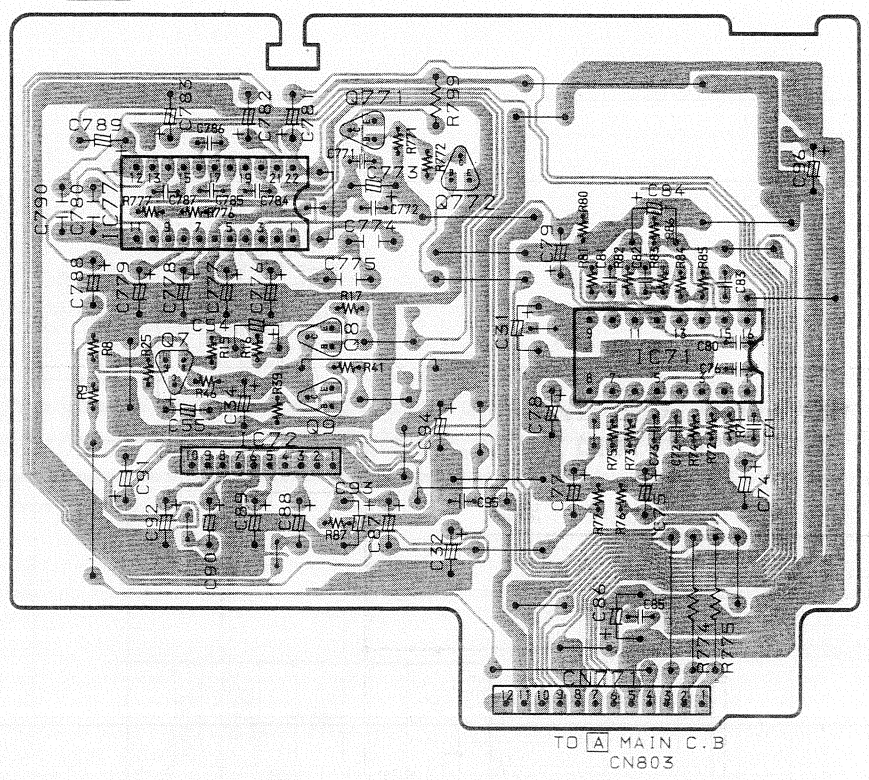

TO A MAIN C.B CN303
NC
NC
V FRONT
GND
AU FRONT L
GND
AU FRONT R
CN881
E PN C.B
C881 47p
C882 680p
C883 680p
R884 100
R882 1k
R883 1k
R881 82
J881
SIGNALS:
REC VIDEO
REC AUDIO
J881-1 VIDEO IN
J881-2 AUDIO IN (L)
J881-3 AUDIO IN (R)

WIRING – 3 (CANAL/ZWEITON/SOUND EFFECT)

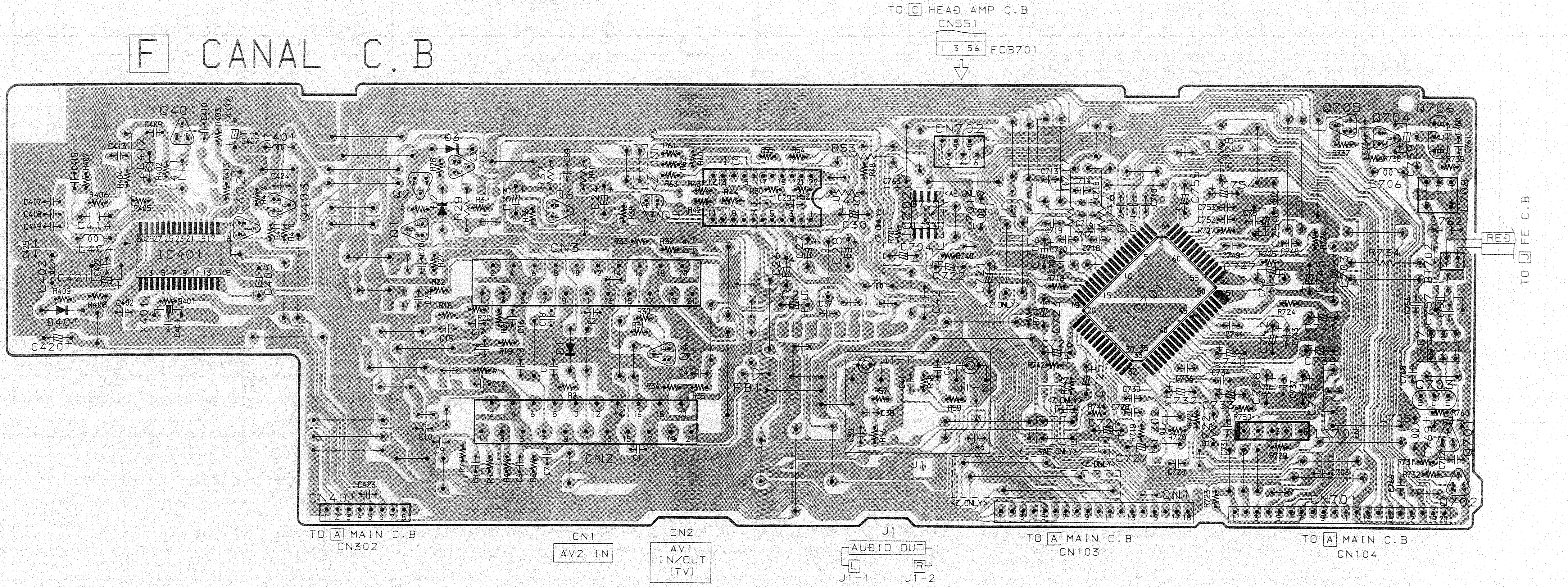
O ZWEITON C.B


FROM A MAIN C.B CN802
CN451
D451
X453
L455
L454
C455
Q451
C469
X451
R452
C478
C463
C459
L456
C485
X454
C462
IC453
SFR451

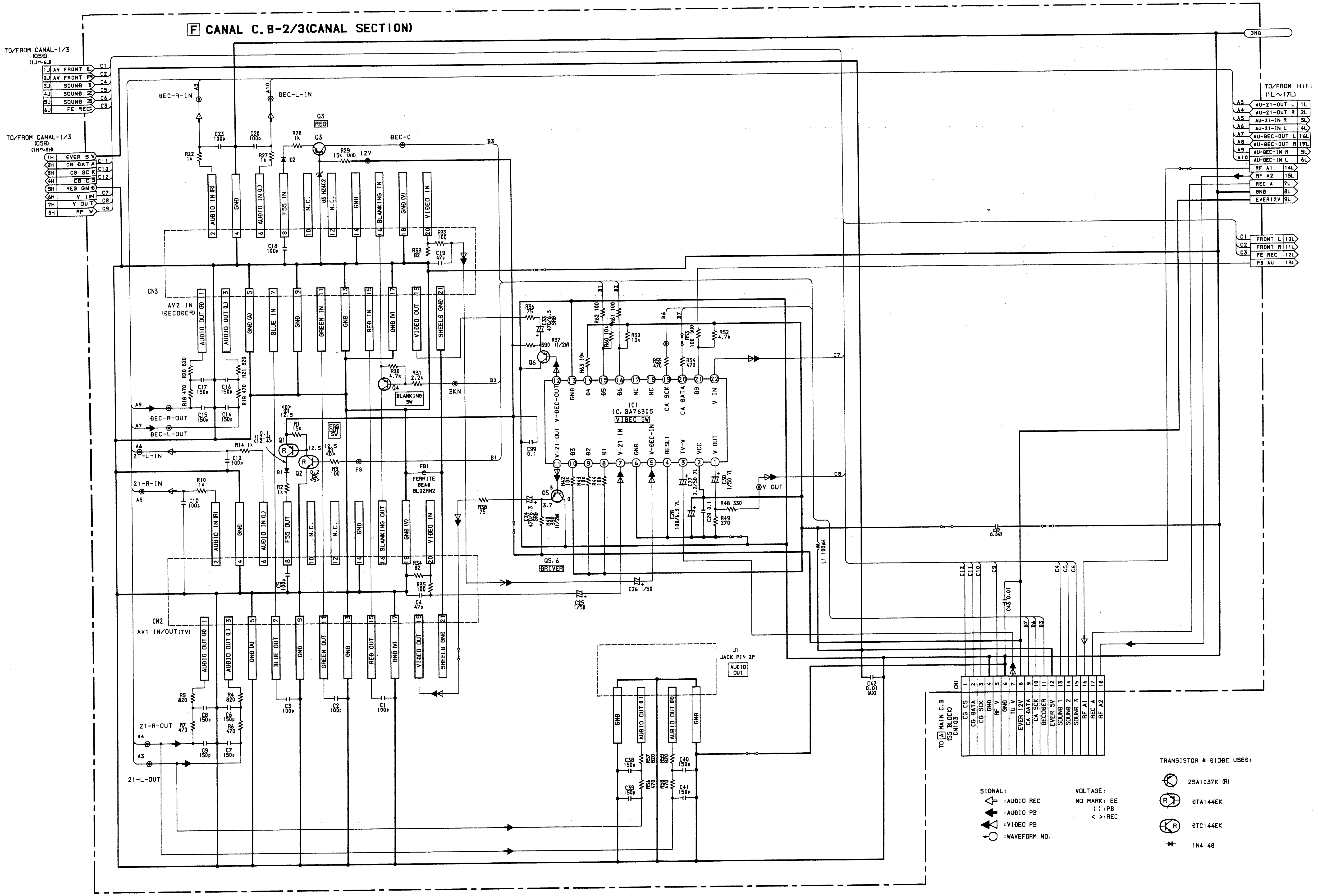
G SD C.B <Z ONLY>


Q771
Q772
R799
C789
C790
C780
C788
C779
C778
C775
C774
C773
C84
IC71
IC72
C78
C74
C79
C81
C86
C85
C92
C91
C90
C89
C95
C32
Q7
Q8
Q9
CN771
TO A MAIN C.B
CN803

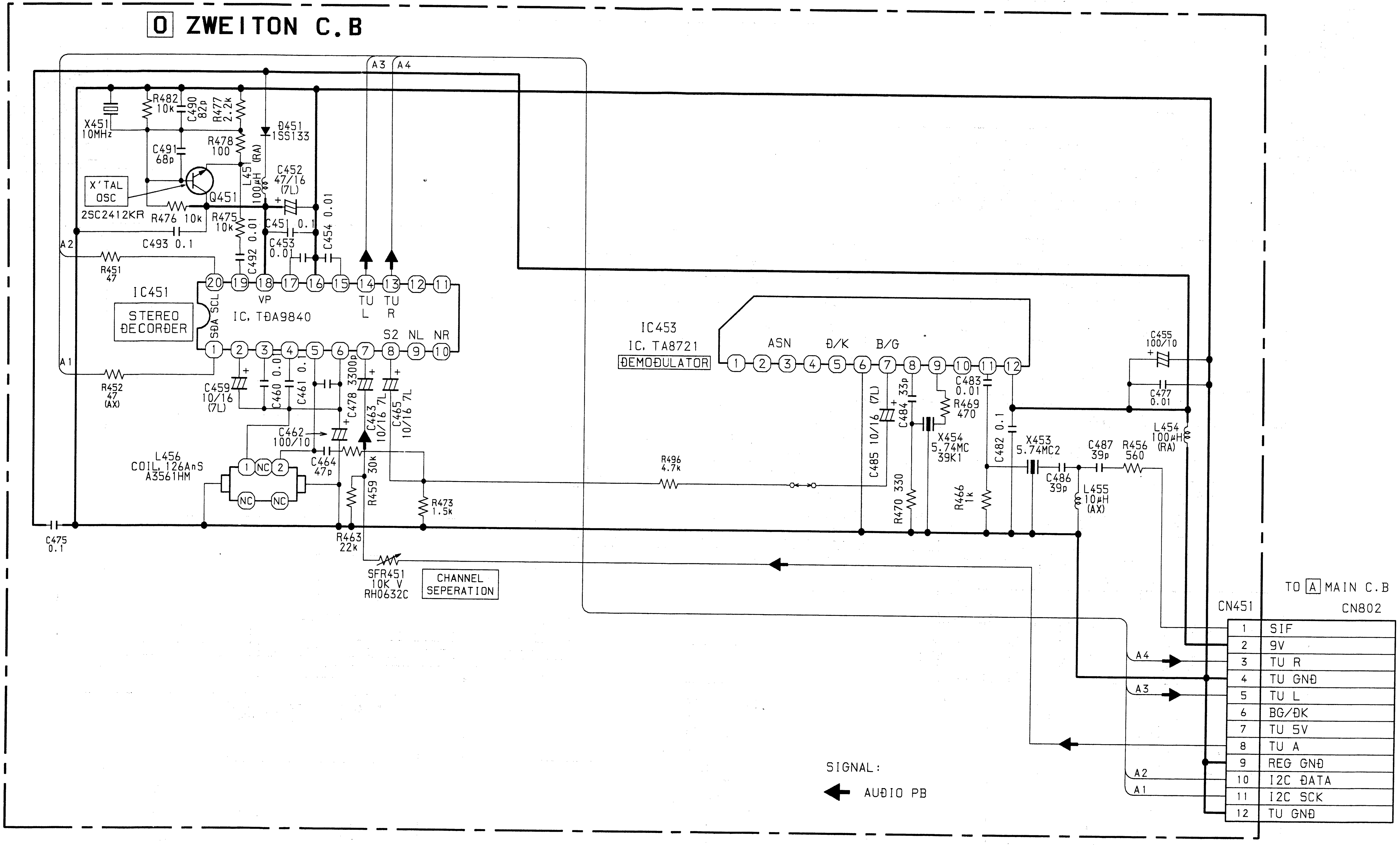
F CANAL C.B


TO C HEAD AMP C.B
CN551
1 3 56
FCB701
Q401
Q406
Q402
Q403
L401
L402
IC401
D401
X401
C420
C421
C414
Q1
Q2
Q3
Q4
Q5
Q6
D1
D3
IC1
CN3
CN2
FB1
J1
R53
R49
C30
CN702
<AE ONLY>
<Z ONLY>
IC701
Q701
Q702
Q703
Q704
Q705
Q706
L701
L702
L703
L705
L706
L708
R734
R702
CN1
CN701
RED
TO J FE C.B
CN401
TO A MAIN C.B
CN302
CN1
AV2 IN
CN2
AV1
IN/OUT
[TV]
J1
AUDIO OUT
L
R
J1-1
J1-2
TO A MAIN C.B
CN103
TO A MAIN C.B
CN104

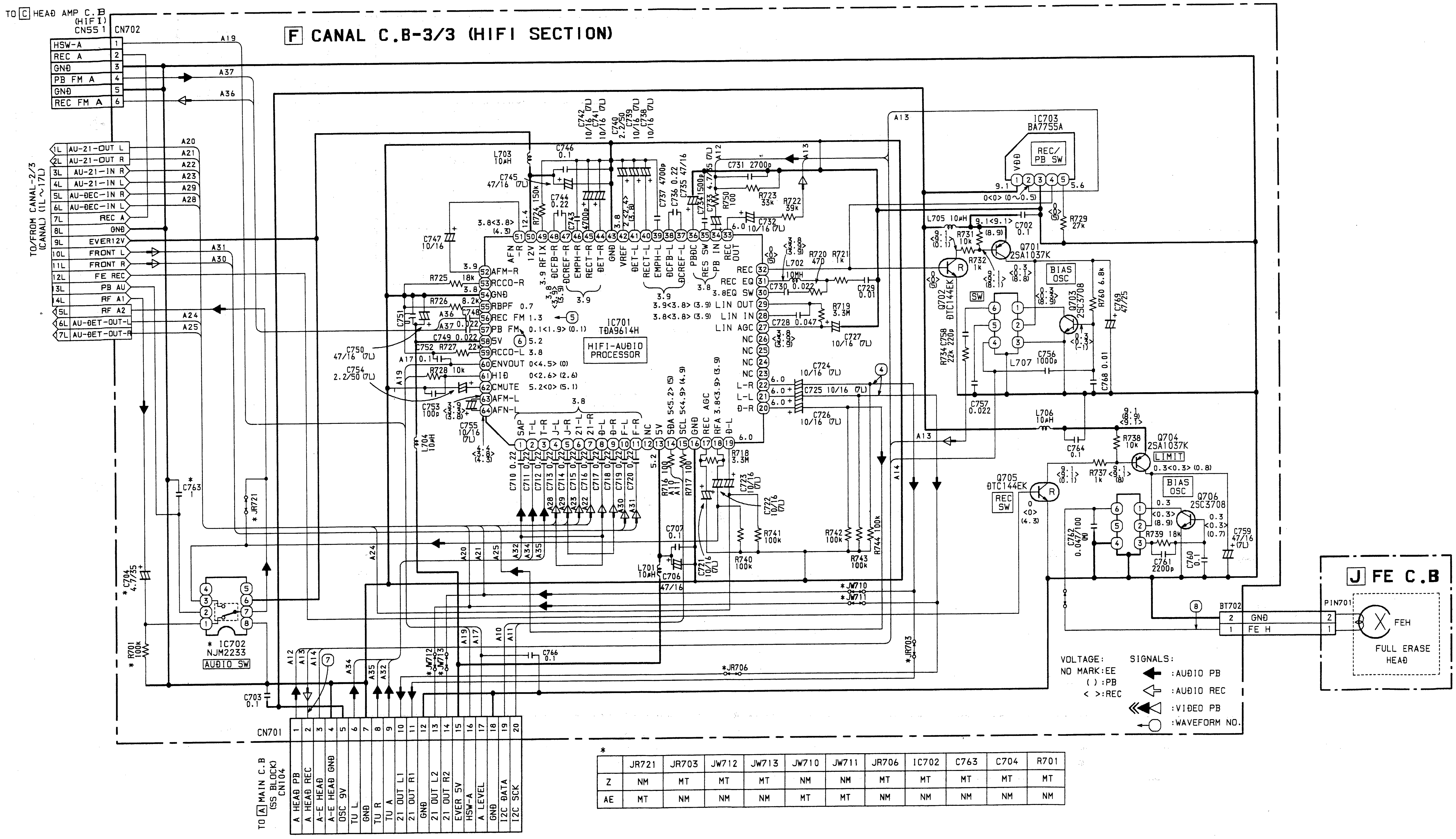
SCHEMATIC DIAGRAM – 9 (CANAL)


F CANAL C.B-2/3(CANAL SECTION)
TO/FROM CANAL-1/3 (DS0) (1J~6J)
1J AV FRONT L
2J AV FRONT R
3J SOUND 1
4J SOUND 2
5J SOUND 3
6J FE REC
TO/FROM CANAL-1/3 (DS0) (1H~8H)
1H EVER 5V
2H CG DATA
3H CG SCK
4H CG CS
5H REG GND
6H V IN
7H V OUT
8H RF V
DEC-R-IN
DEC-L-IN
Q3 REG
DEC-C
AUDIO IN (R)
GND
AUDIO IN (L)
FSS IN
N.C.
BLANKING IN
GND (V)
VIDEO IN
CN3
AV2 IN (DECODER)
AUDIO OUT (R)
AUDIO OUT (L)
GND (A)
BLUE IN
GREEN IN
RED IN
VIDEO OUT
SHEELD GND
Q4 BLANKING SW
BKN
DEC-R-OUT
DEC-L-OUT
21-L-IN
21-R-IN
FSS SW
FS
FB1 FERRITE BEAD BL02RN2
FSS OUT
BLANKING OUT
CN2
AV1 IN/OUT(TV)
BLUE OUT
GREEN OUT
RED OUT
21-R-OUT
21-L-OUT
IC1 IC, BA7630S VIDEO SW
V-DEC-OUT
V-21-OUT
V-21-IN
V-DEC-IN
RESET
TV-V
VCC
V OUT
V IN
CA SCK
CA DATA
Q5, 6 DRIVER
L1 100µH
V OUT
J1 JACK PIN 2P AUDIO OUT
TO/FROM HIFI (1L~17L)
AU-21-OUT L
AU-21-OUT R
AU-21-IN R
AU-21-IN L
AU-DEC-OUT L
AU-DEC-OUT R
AU-DEC-IN R
AU-DEC-IN L
RF A1
RF A2
REC A
GND
EVER12V
FRONT L
FRONT R
FE REC
PB AU
GND
TO A MAIN C.B (SS BLOCK) CN103
CN1
CG CS
CG DATA
CG SCK
GND
RF V
GND
TU V
EVER 12V
CA DATA
CA SCK
DECODER
EVER 5V
SOUND 1
SOUND 2
SOUND 3
RF A1
REC A
RF A2
SIGNAL:
:AUDIO REC
:AUDIO PB
:VIDEO PB
:WAVEFORM NO.
VOLTAGE:
NO MARK: EE
( ) :PB
< >:REC
TRANSISTOR & DIODE USED:
2SA1037K (R)
DTA144EK
DTC144EK
1N4148

SCHEMATIC DIAGRAM – 10 (ZWEITON)


O ZWEITON C.B
X451 10MHz
R482 10k
C490 82p
R477 2.2k
Ð451 1SS133
C491 68p
R478 100
L451 100μH (RA)
C452 47/16 (7L)
X'TAL OSC
Q451 2SC2412KR
R476 10k
R475 10k
C451 0.1
C454 0.01
C492 0.01
C453 0.01
C493 0.1
A2
A3
A4
R451 47
IC451
STEREO ÐECORÐER
IC, TÐA9840
SCL
SÐA
VP
TU L
TU R
S2
NL
NR
A1
R452 47 (AX)
C459 10/16 (7L)
C460 0.01
C461 0.1
C478 3300p
C463 10/16 7L
C465 10/16 7L
C462 100/10
C464 47p
L456 COIL, 126AnS A3561HM
R459 30k
R473 1.5k
R463 22k
C475 0.1
SFR451 10K V RH0632C
CHANNEL SEPERATION
R496 4.7k
IC453
IC, TA8721
ÐEMOÐULATOR
ASN
Ð/K
B/G
C485 10/16 (7L)
C484 33p
R469 470
C483 0.01
C482 0.1
X454 5.74MC 39K1
X453 5.74MC2
R470 330
R466 1k
C486 39p
C487 39p
R456 560
L455 10μH (AX)
L454 100μH (RA)
C455 100/10
C477 0.01
TO A MAIN C.B
CN451
CN802
1 SIF
2 9V
3 TU R
4 TU GNÐ
5 TU L
6 BG/ÐK
7 TU 5V
8 TU A
9 REG GNÐ
10 I2C ÐATA
11 I2C SCK
12 TU GNÐ
SIGNAL:
AUÐIO PB

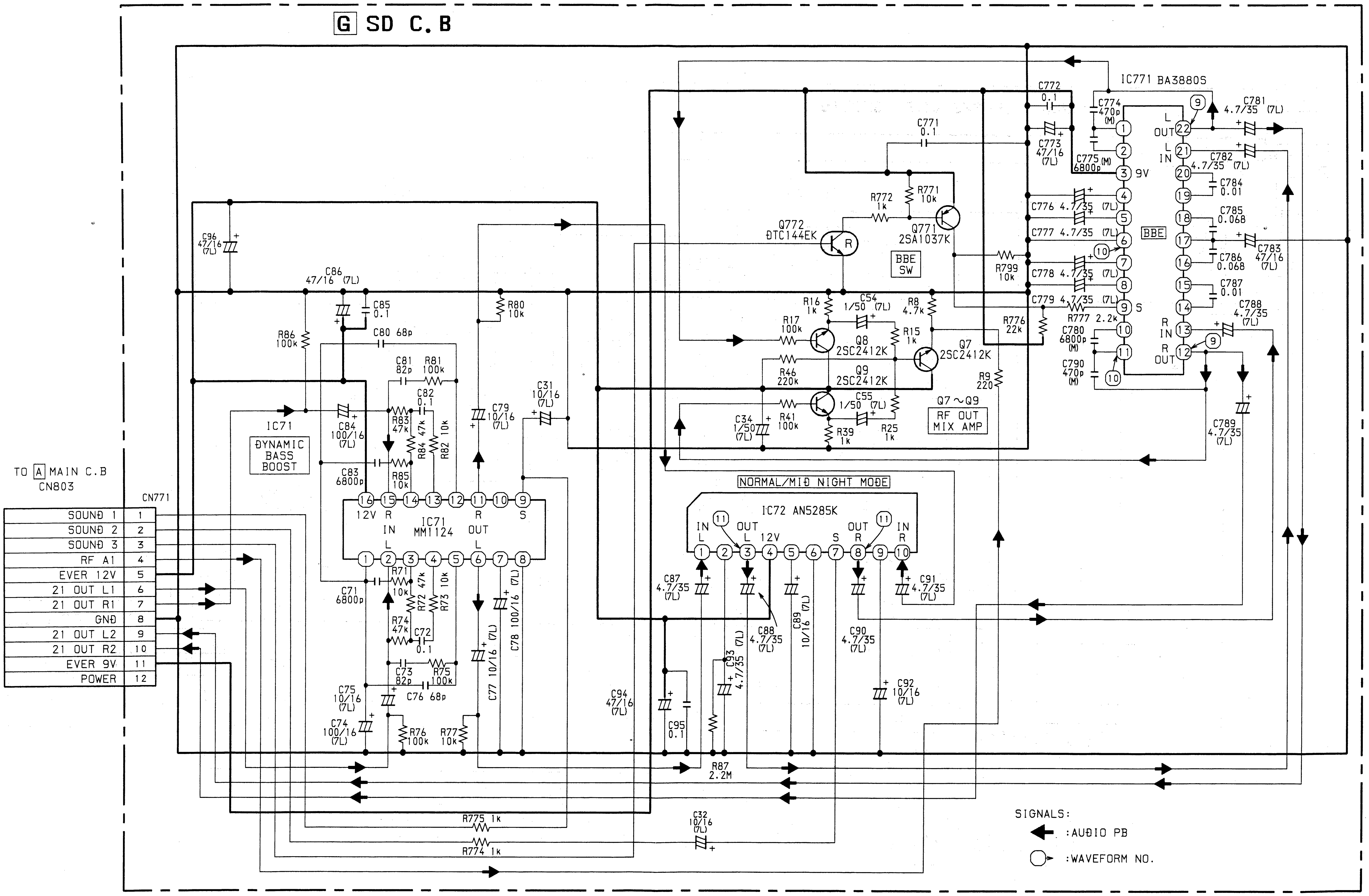
SCHEMATIC DIAGRAM – 11 (HIFI)


F CANAL C.B-3/3 (HIFI SECTION)
TO C HEAD AMP C.B (HIFI) CN551
CN702
HSW-A
REC A
GND
PB FM A
GND
REC FM A
TO/FROM CANAL-2/3 (CANAL) (1L~17L)
AU-21-OUT L
AU-21-OUT R
AU-21-IN R
AU-21-IN L
AU-DEC-IN R
AU-DEC-IN L
REC A
GND
EVER12V
FRONT L
FRONT R
FE REC
PB AU
RF A1
RF A2
AU-DET-OUT-L
AU-DET-OUT-R
IC701
TDA9614H
HIFI-AUDIO PROCESSOR
IC703
BA7755A
REC/PB SW
Q701 2SA1037K
Q702 DTC144EK
Q703 2SC3708
Q704 2SA1037K
Q705 DTC144EK
Q706 2SC3708
BIAS OSC
SW
LIMIT
REC SW
* IC702
NJM2233
AUDIO SW
J FE C.B
BT702
GND
FE H
PIN701
FEH
FULL ERASE HEAD
CN701
TO A MAIN C.B (SS BLOCK) CN104
A HEAD PB
A HEAD REC
A-E HEAD
A-E HEAD GND
OSC 9V
TU L
GND
TU R
TU A
21 OUT L1
21 OUT R1
GND
21 OUT L2
21 OUT R2
EVER 5V
HSW-A
A LEVEL
GND
I2C DATA
I2C SCK
VOLTAGE:
NO MARK:EE
( ):PB
< >:REC
SIGNALS:
:AUDIO PB
:AUDIO REC
:VIDEO PB
:WAVEFORM NO.

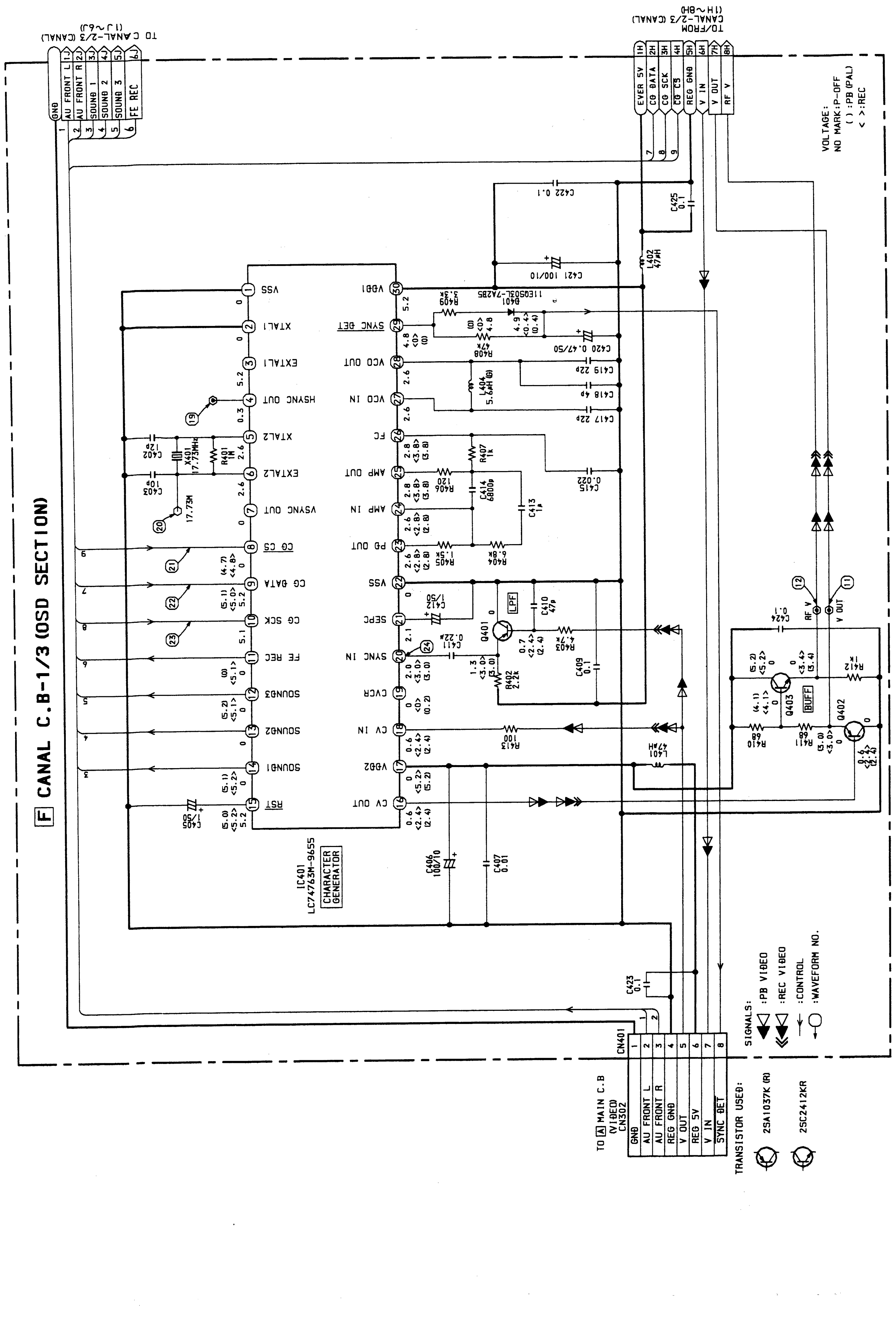
*

	JR721	JR703	JW712	JW713	JW710	JW711	JR706	IC702	C763	C704	R701
Z	NM	MT	MT	MT	NM	NM	MT	MT	MT	MT	MT
AE	MT	NM	NM	NM	MT	MT	NM	NM	NM	NM	NM

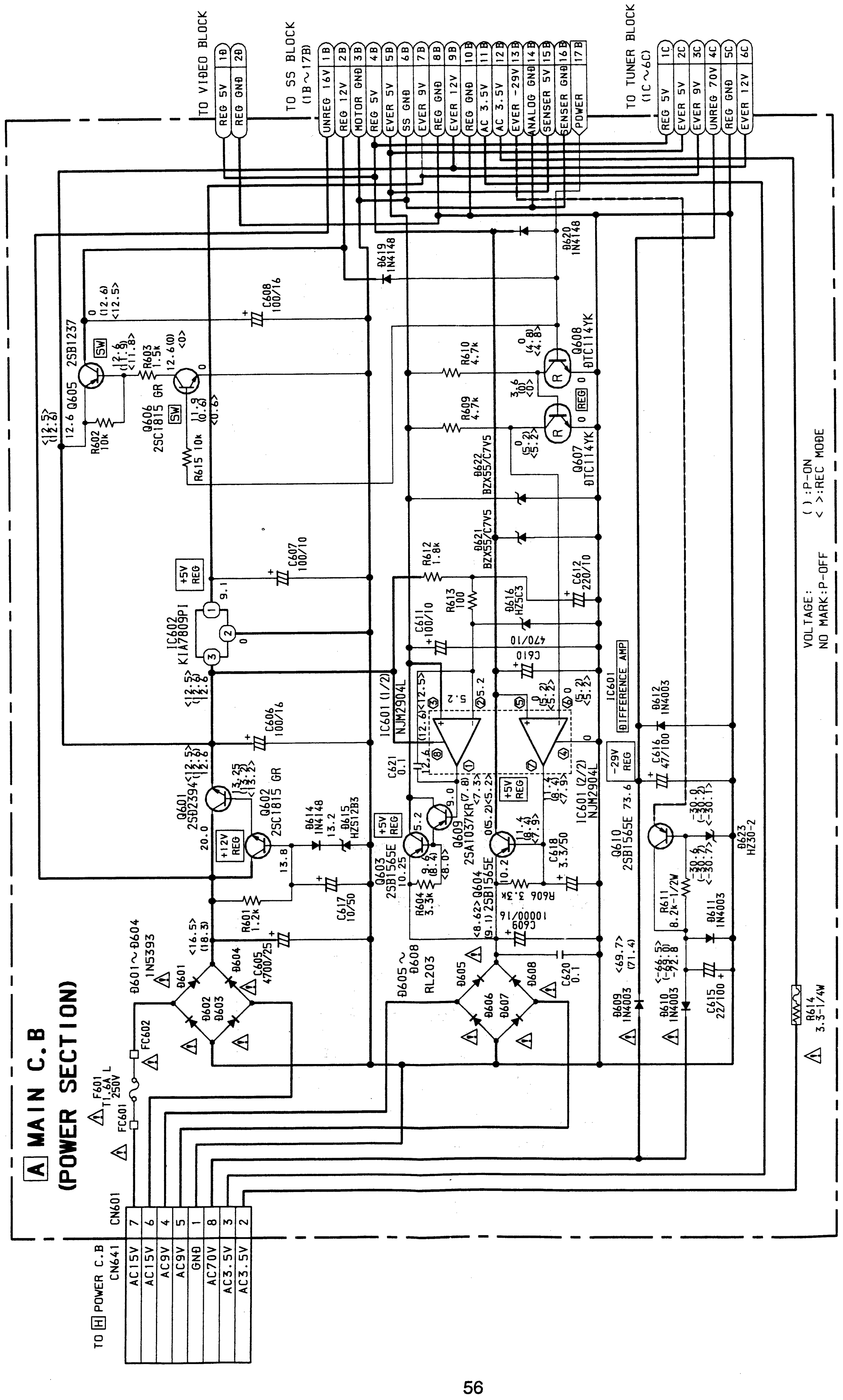
SCHEMATIC DIAGRAM – 12 (SOUND EFFECT : Z ONLY)


G SD C.B
TO A MAIN C.B
CN803
CN771
SOUND 1 1
SOUND 2 2
SOUND 3 3
RF A1 4
EVER 12V 5
21 OUT L1 6
21 OUT R1 7
GND 8
21 OUT L2 9
21 OUT R2 10
EVER 9V 11
POWER 12
C96 47/16 (7L)
C86 47/16 (7L)
C85 0.1
R86 100k
R80 10k
C80 68p
C81 82p
R81 100k
C82 0.1
R83 47k
R84 47k
R82 10k
C84 100/16 (7L)
IC71
DYNAMIC BASS BOOST
C83 6800p
R85 10k
C79 10/16 (7L)
C31 10/16 (7L)
IC71 MM1124
12V
R IN
L
R OUT
L
S
C71 6800p
R71 10k
R72 47k
R73 10k
R74 47k
C72 0.1
C73 82p
R75 100k
C76 68p
C75 10/16 (7L)
C74 100/16 (7L)
R76 100k
R77 10k
C77 10/16 (7L)
C78 100/16 (7L)
C94 47/16 (7L)
R775 1k
R774 1k
C32 10/16 (7L)
IC771 BA3880S
C772 0.1
C774 470p (M)
C773 47/16 (7L)
C775 (M) 6800p
C771 0.1
R772 1k
R771 10k
Q772 DTC144EK
Q771 2SA1037K
BBE SW
R799 10k
C776 4.7/35 (7L)
C777 4.7/35 (7L)
C778 4.7/35 (7L)
C779 4.7/35 (7L)
R777 2.2k
R776 22k
C780 6800p (M)
C790 470p (M)
L OUT
L IN
9V
S
R IN
R OUT
BBE
C781 4.7/35 (7L)
C782 4.7/35 (7L)
C784 0.01
C785 0.068
C783 47/16 (7L)
C786 0.068
C787 0.01
C788 4.7/35 (7L)
C789 4.7/35 (7L)
R16 1k
C54 1/50 (7L)
R8 4.7k
R17 100k
Q8 2SC2412K
R15 1k
Q7 2SC2412K
R46 220k
Q9 2SC2412K
R9 220
C55 1/50 (7L)
C34 1/50 (7L)
R41 100k
R39 1k
R25 1k
Q7～Q9
RF OUT MIX AMP
NORMAL/MID NIGHT MODE
IC72 AN5285K
IN L
OUT L
12V
S
OUT R
IN R
C87 4.7/35 (7L)
C88 4.7/35 (7L)
C89 10/16 (7L)
C90 4.7/35 (7L)
C91 4.7/35 (7L)
C93 4.7/35 (7L)
C92 10/16 (7L)
C95 0.1
R87 2.2M
SIGNALS:
:AUDIO PB
:WAVEFORM NO.

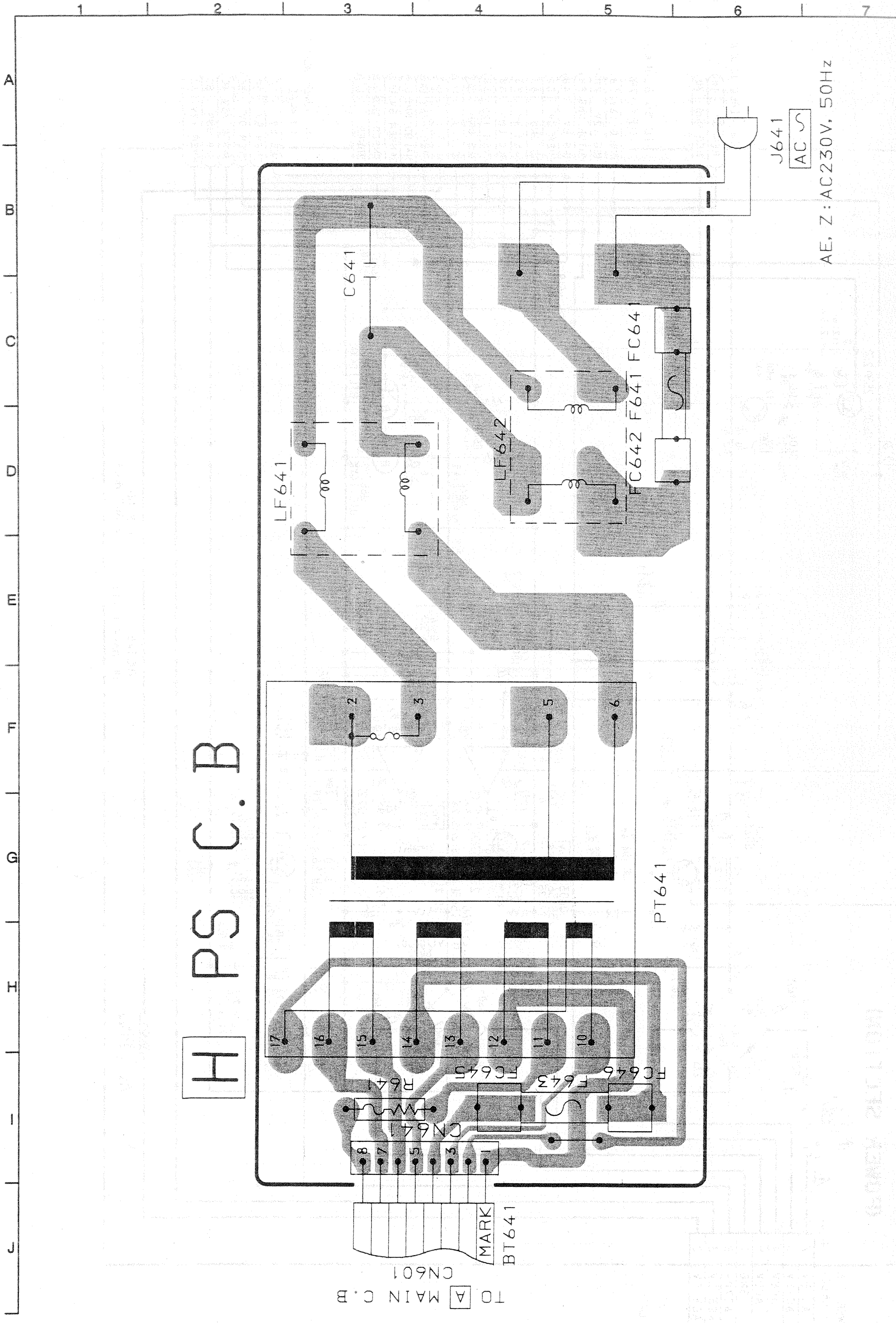
SCHEMATIC DIAGRAM – 13 (OSD)


F CANAL C.B-1/3 (OSD SECTION)
TO CANAL-2/3 (CANAL) (1J~6J)
TO/FROM CANAL-2/3 (CANAL) (1H~8H)
IC401 LC74763M-9655 CHARACTER GENERATOR
VOLTAGE: NO MARK: P-OFF ( ): PB (PAL) < >: REC
TO A MAIN C.B (VIDEO CN302)
CN401
SIGNALS: :PB VIDEO :REC VIDEO :CONTROL :WAVEFORM NO.
TRANSISTOR USED: 2SA1037K (R) 2SC2412KR

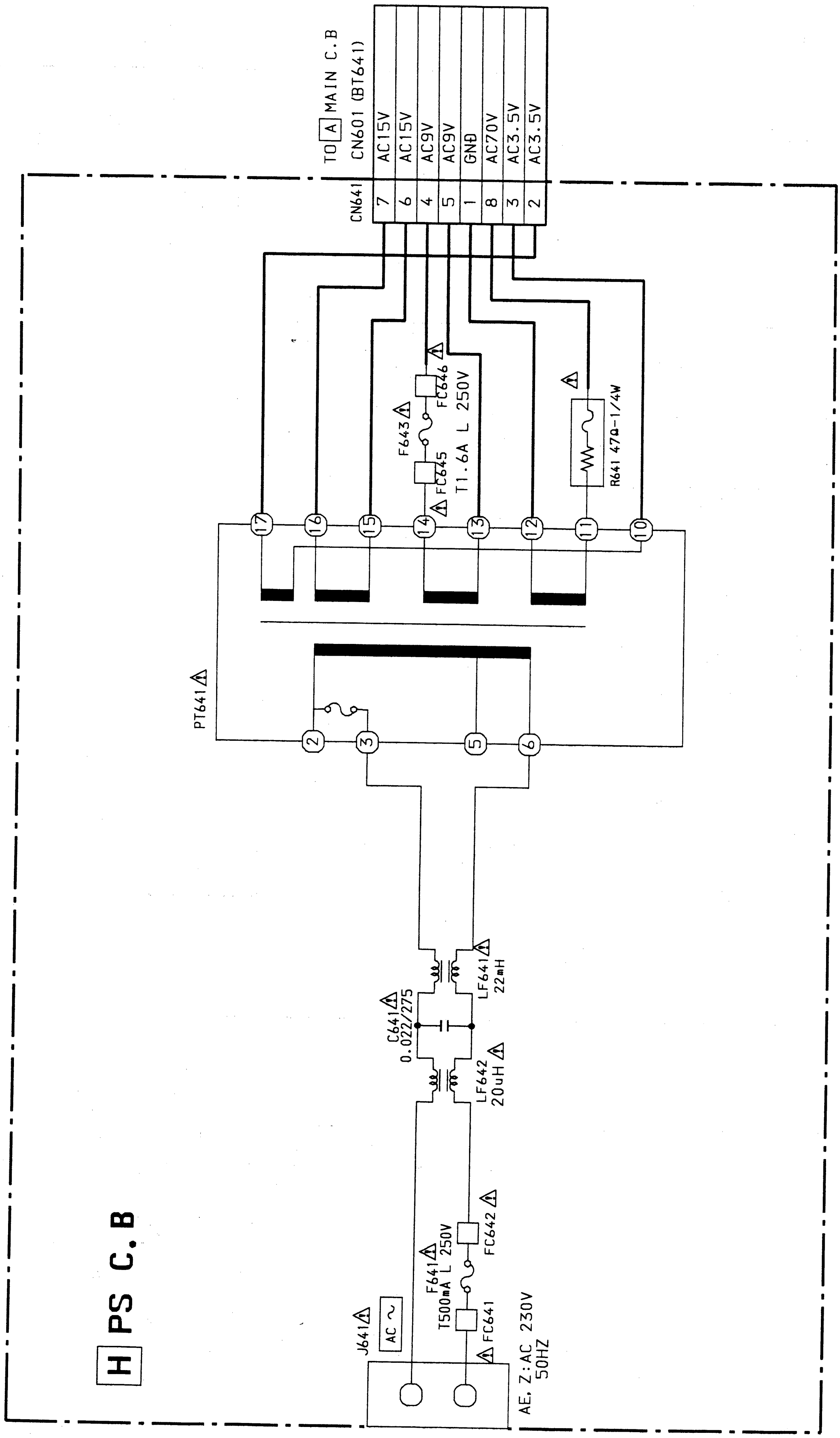
SCHEMATIC DIAGRAM – 14 (MAIN : POWER)


A MAIN C.B (POWER SECTION)
TO VIDEO BLOCK
TO SS BLOCK (1B~17B)
TO TUNER BLOCK (1C~6C)
TO H POWER C.B CN641
CN601
AC15V AC15V AC9V AC9V GND AC70V AC3.5V AC3.5V
IC601 NJM2904L DIFFERENCE AMP
IC602 KIA7809PI
VOLTAGE: NO MARK: P-OFF ( ): P-ON < >: REC MODE

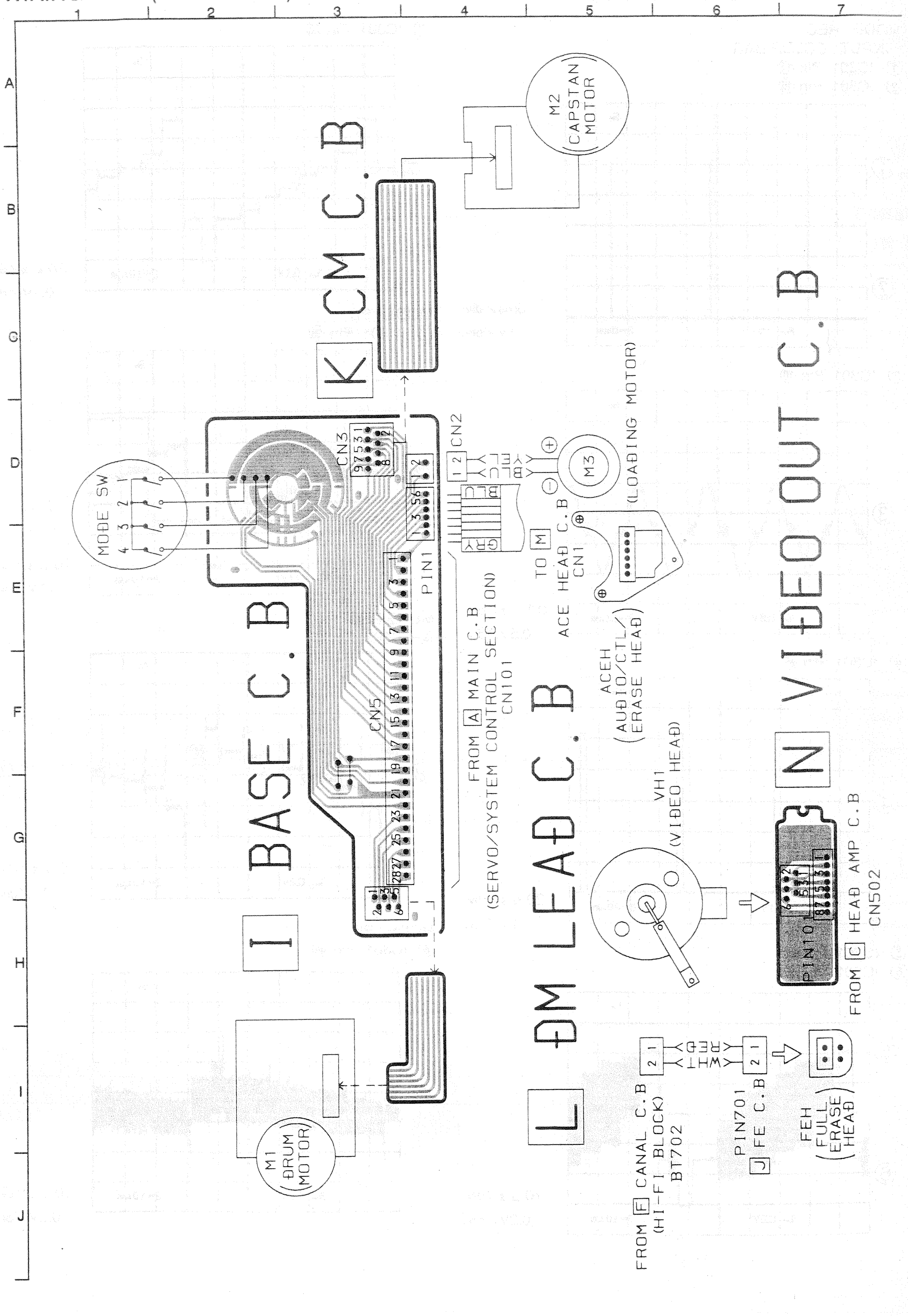
WIRING – 4 (PS)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
H PS C.B
J641
AC ∽
AE, Z:AC230V, 50Hz
C641
LF641
LF642
FC642
F641
FC641
PT641
2
3
5
6
17
16
15
14
13
12
11
10
R641
FC645
F643
FC646
CN641
8
7
5
3
1
MARK
BT641
CN601
TO A MAIN C.B

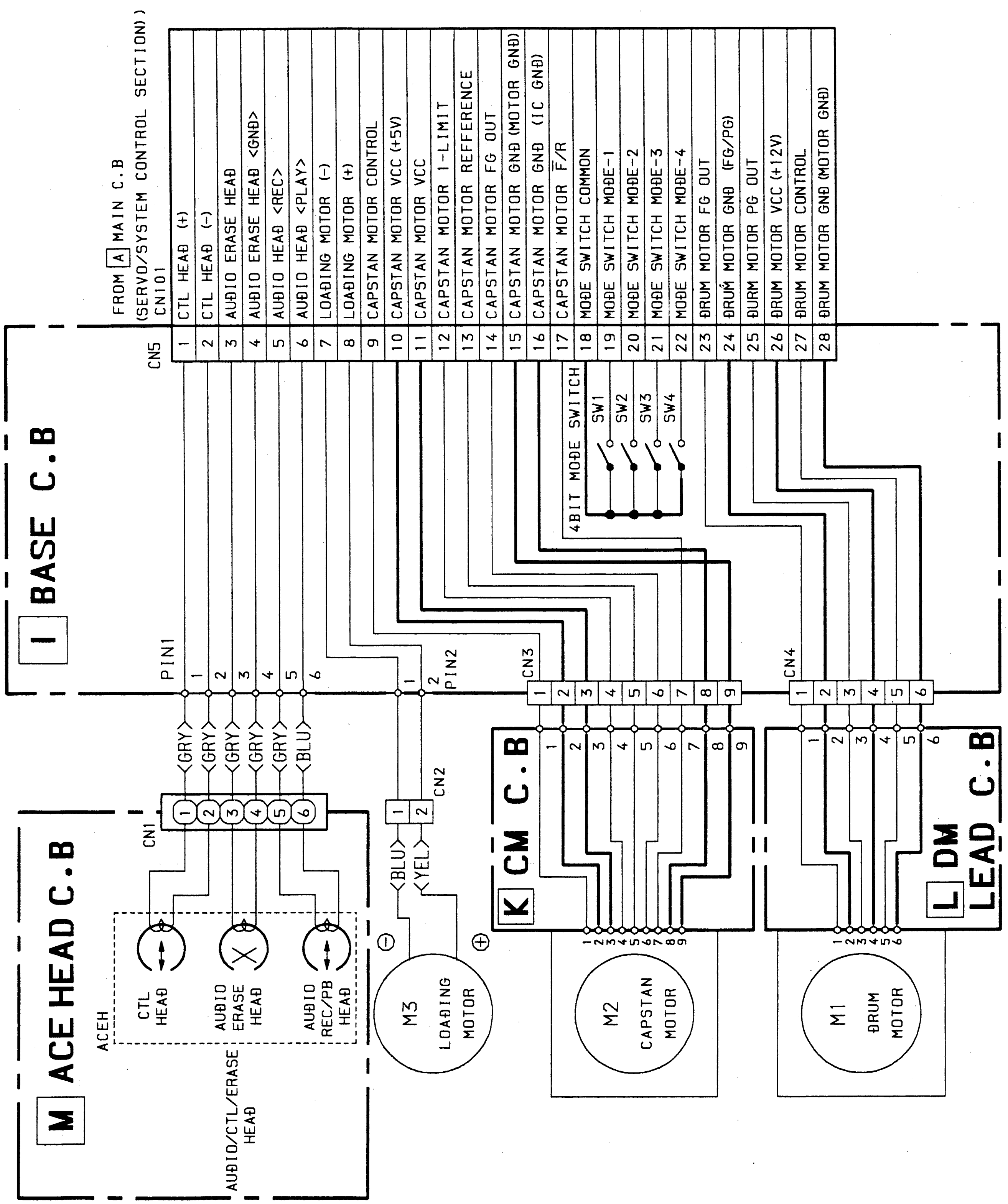
SCHEMATIC DIAGRAM – 15 (PS)


TO A MAIN C.B
CN601 (BT641)
CN641
7 AC15V
6 AC15V
4 AC9V
5 AC9V
1 GND
8 AC70V
3 AC3.5V
2 AC3.5V
F643
FC645
FC646
T1.6A L 250V
R641 47Ω-1/4W
17
16
15
14
13
12
11
10
PT641
2
3
5
6
LF641
22mH
C641
0.022/275
LF642
20uH
FC642
F641
T500mA L 250V
FC641
J641
AC ~
AE, Z:AC 230V
50HZ
H PS C.B

WIRING — 5 (MECHANISM)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
I BASE C.B
K CM C.B
L DM LEAD C.B
N VIDEO OUT C.B
M2 (CAPSTAN MOTOR)
MODE SW
1 2 3 4
M1 (DRUM MOTOR)
M3 (LOADING MOTOR)
CN3
CN2
CN5
PIN1
BLU
YEL
GRY
FROM A MAIN C.B (SERVO/SYSTEM CONTROL SECTION) CN101
TO M ACE HEAD C.B CN1
ACE
ACEH (AUDIO/CTL/ ERASE HEAD)
VH1 (VIDEO HEAD)
PIN10
FROM C HEAD AMP C.B CN502
FROM F CANAL C.B (HI-FI BLOCK) BT702
RED
WHT
PIN701 J FE C.B
FEH (FULL ERASE HEAD)

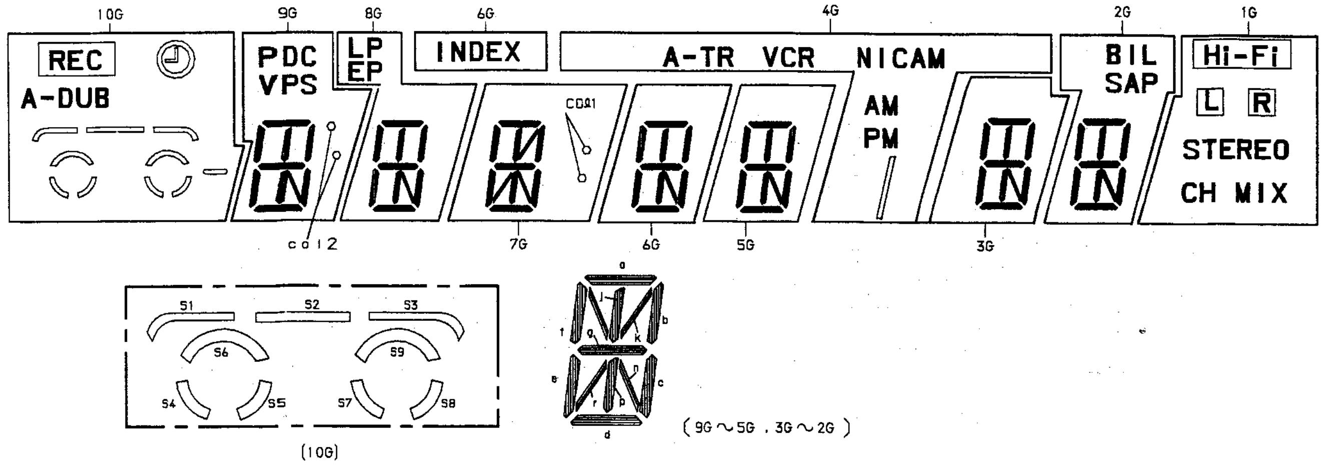
SCHEMATIC DIAGRAM – 16 (MECHANISM)


FROM A MAIN C.B
(SERVO/SYSTEM CONTROL SECTION))
CN101
CN5
1 CTL HEAD (+)
2 CTL HEAD (-)
3 AUDIO ERASE HEAD
4 AUDIO ERASE HEAD <GND>
5 AUDIO HEAD <REC>
6 AUDIO HEAD <PLAY>
7 LOADING MOTOR (-)
8 LOADING MOTOR (+)
9 CAPSTAN MOTOR CONTROL
10 CAPSTAN MOTOR VCC (+5V)
11 CAPSTAN MOTOR VCC
12 CAPSTAN MOTOR 1-LIMIT
13 CAPSTAN MOTOR REFFERENCE
14 CAPSTAN MOTOR FG OUT
15 CAPSTAN MOTOR GND (MOTOR GND)
16 CAPSTAN MOTOR GND (IC GND)
17 CAPSTAN MOTOR F̄/R
18 MODE SWITCH COMMON
19 MODE SWITCH MODE-1
20 MODE SWITCH MODE-2
21 MODE SWITCH MODE-3
22 MODE SWITCH MODE-4
23 DRUM MOTOR FG OUT
24 DRUM MOTOR GND (FG/PG)
25 DURM MOTOR PG OUT
26 DRUM MOTOR VCC (+12V)
27 DRUM MOTOR CONTROL
28 DRUM MOTOR GND (MOTOR GND)
I BASE C.B
4BIT MODE SWITCH
SW1
SW2
SW3
SW4
PIN1
1
2
3
4
5
6
1
2
PIN2
CN3
1 2 3 4 5 6 7 8 9
CN4
1 2 3 4 5 6
<GRY>
<GRY>
<GRY>
<GRY>
<GRY>
<BLU>
CN1
1 2 3 4 5 6
CN2
1 2
<BLU>
<YEL>
M ACE HEAD C.B
ACEH
CTL HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
AUDIO/CTL/ERASE HEAD
⊖
⊕
M3
LOADING MOTOR
K CM C.B
1 2 3 4 5 6 7 8 9
M2
CAPSTAN MOTOR
L DM LEAD C.B
1 2 3 4 5 6
M1
DRUM MOTOR

FL ANODE CONNECTION AND GRID ASSIGNMENT

FL, SVV10SM05

GRID ASSIGNMENT

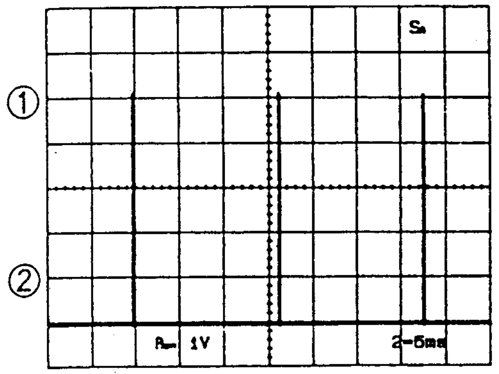

10G
9G
8G
6G
4G
2G
1G
REC
A-DUB
PDC
VPS
LP
EP
INDEX
A-TR VCR NICAM
AM
PM
BIL
SAP
Hi-Fi
L
R
STEREO
CH MIX
COl1
col 2
7G
6G
5G
3G
S1
S2
S3
S4
S5
S6
S7
S8
S9
(10G)
a
b
c
d
e
f
g
j
k
n
p
r
(9G～5G , 3G～2G)

ANODE CONNECTION

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	S1	a	a	a	a	a	I	a	a	—
P2	S2	j	j	j	j	j	A	j	j	—
P3	S3	b	b	b	b	b	M (UP)	b	b	—
P4	S4	f	f	f	f	f	P (DOWN)	f	f	—
P5	S5	g	g	g	g	g	M	g	g	—
P6	S6	c	c	c	c	c	NICAM	c	c	—
P7	S7	e	e	e	e	e	A-TR	e	e	—
P8	S8	p	p	p	p	p	VCR	p	p	Hi-Fi
P9	S9	n	n	n	n	n	—	n	n	L
P10	⬭	d	d	d	d	d	—	d	d	R
P11	A-DUB	VPS	—	r	INDEX	—	—	—	BIL	STEREO
P12	🕒	PDC	LP	k	—	—	—	—	SAP	MIX
P13	REC	COl 2	EP	COl 1	—	—	—	—	—	CH

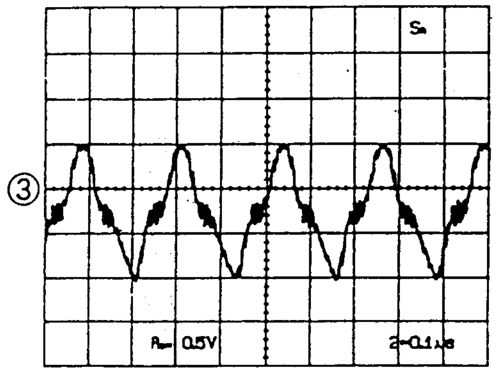
WAVEFORM – 1 (VIDEO / OSD)

MODE : REC
INPUT : COLOR BAR
① IC301 Pin ⑭
② IC301 Pin ⑮



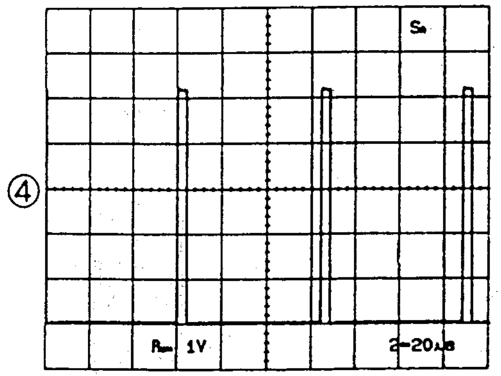
5ms/div.
1V/div.

③ IC301 Pin ⑩



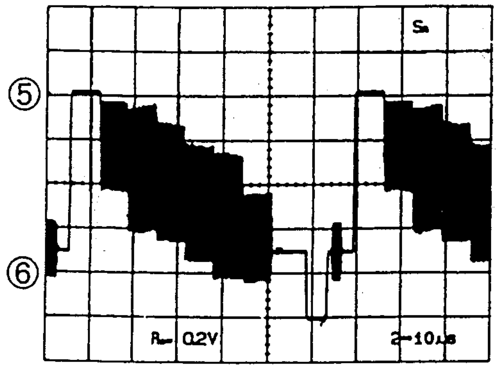
0.1 μ s/div.
0.5V/div.

④ IC301 Pin ㉕



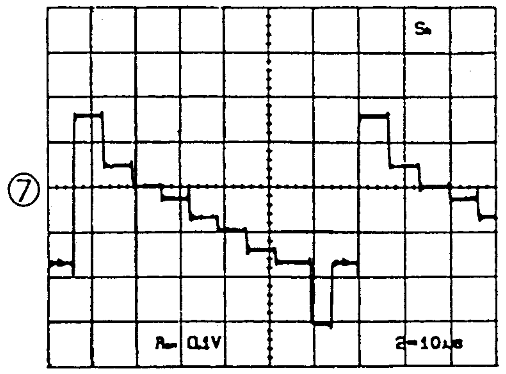
20 μ s/div.
1V/div.

⑤ IC301 Pin ㉙
⑥ IC301 Pin ㉛



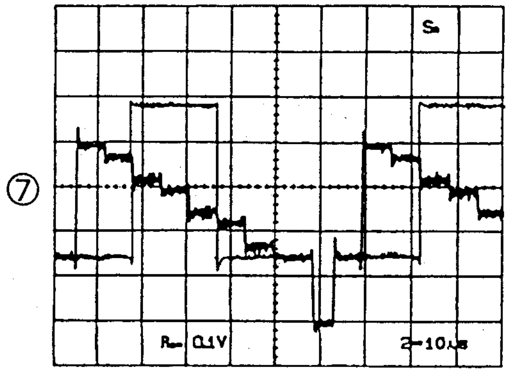
10 μ s/div.
0.2V/div.

⑦ IC301 Pin ㊳



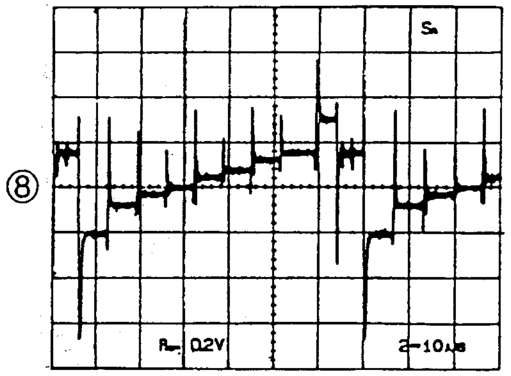
10 μ s/div.
0.1V/div.

MODE : PB
⑦ IC301 Pin ㊳



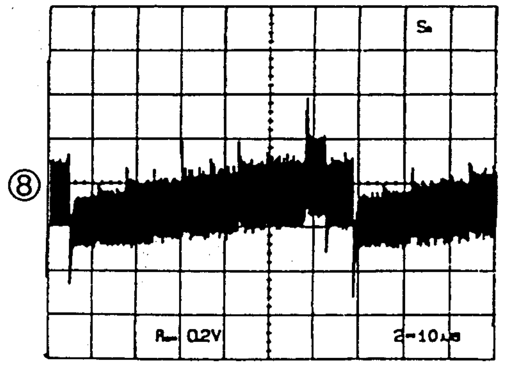
10 μ s/div.
0.1V/div.

MODE REC
⑧ IC301 Pin ㊽



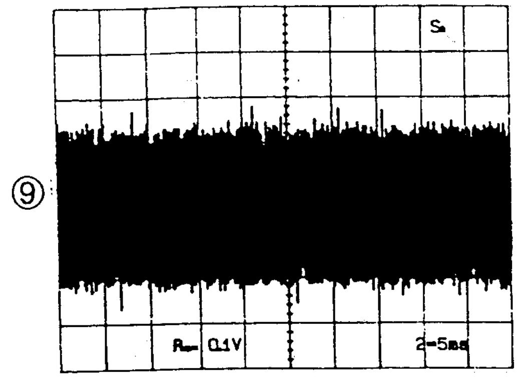
10 μ s/div.
0.2V/div.

MODE : PB
⑧ IC301 Pin ㊽



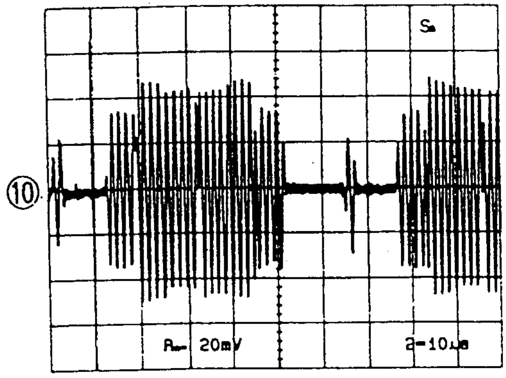
10 μ s/div.
0.2V/div.

MODE : REC
⑨ Q327 Emitter



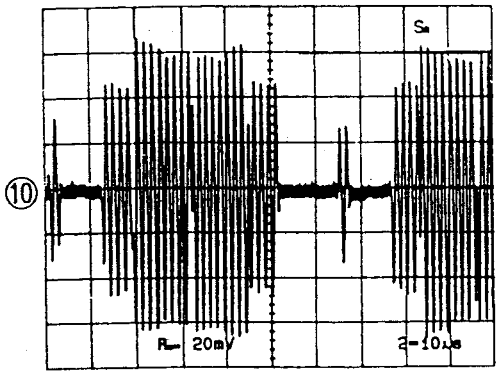
5ms／div.
0.1V／div.

MODE : SP
⑩ Q329 Emitter



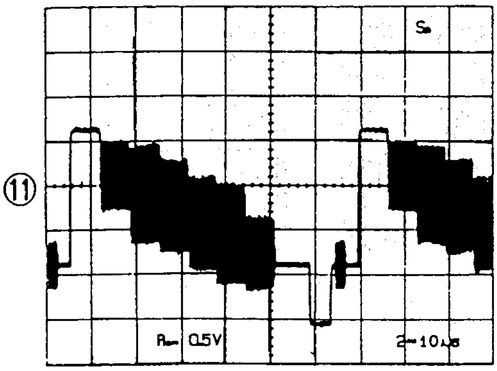
10 µ s／div.
20mV／div.

MODE : LP
⑩ Q329 Emitter



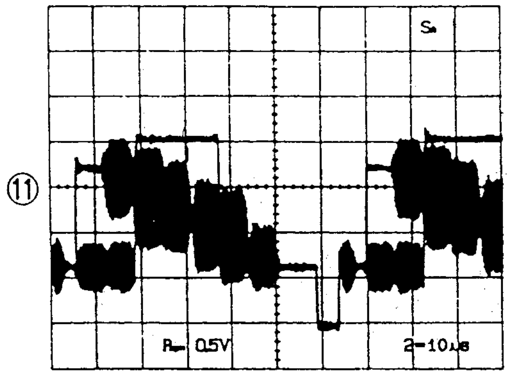
10 µ s／div.
20mV／div.

MODE : LP (OSD)
⑪ Q402 Emitter



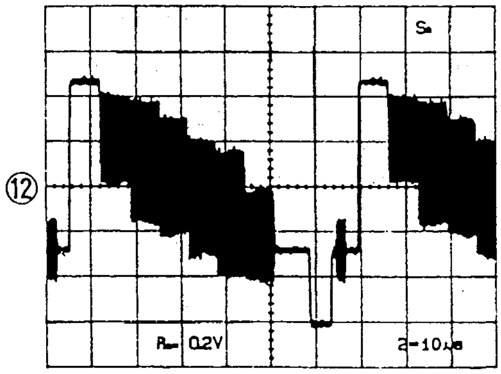
10 µ s／div.
0.5V／div.

MODE : PB (OSD)
⑪ Q402 Emitter



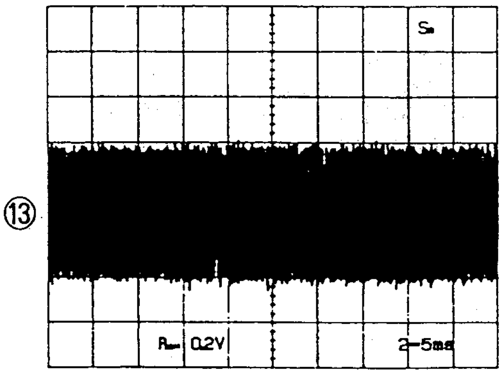
10 µ s／div.
0.5V／div.

MODE : LP (OSD)
⑫ Q403 Emitter



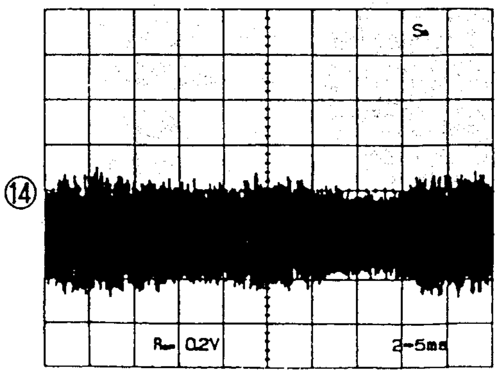
10 µ s／div.
0.2V／div.

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
⑬ Q320 Emitter



5ms／div.
0.2V／div.

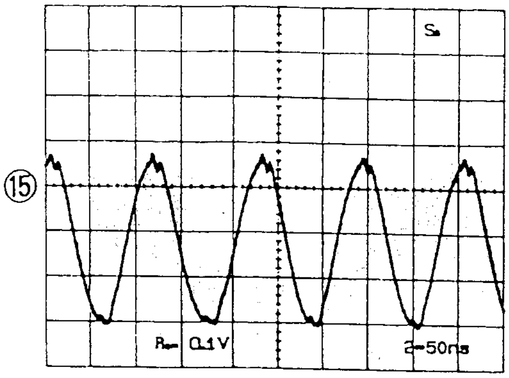
⑭ Q325 Emitter



5ms／div.
0.2V／div.

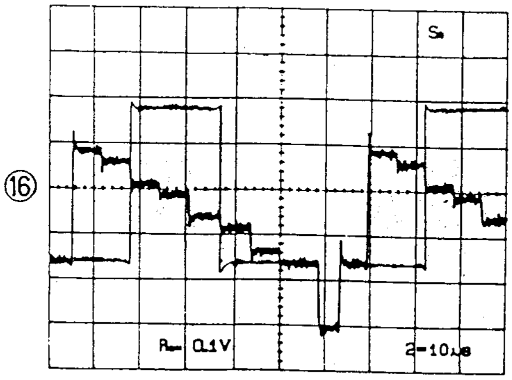
MODE : PB

⑮ IC302 Pin ⑥



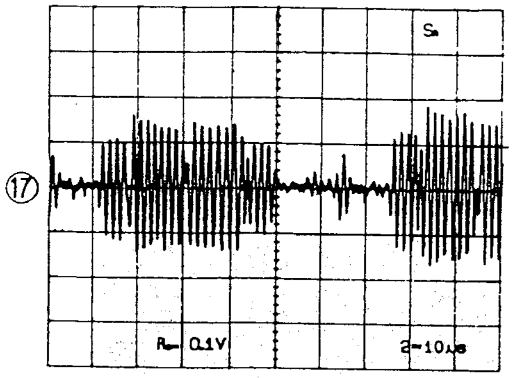
50ns/div.
0.1V/div.

⑯ IC302 Pin ㉟



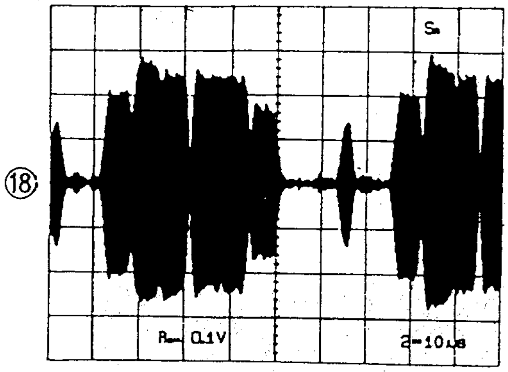
10 μ s/div.
0.1V/div.

⑰ IC302 Pin (56)



10 μ s/div.
0.1V/div.

⑱ IC302 Pin ⑲

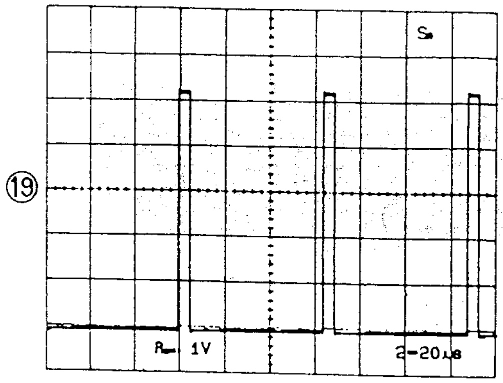


10 μ s/div.
0.1V/div.

(OSD SECTION)

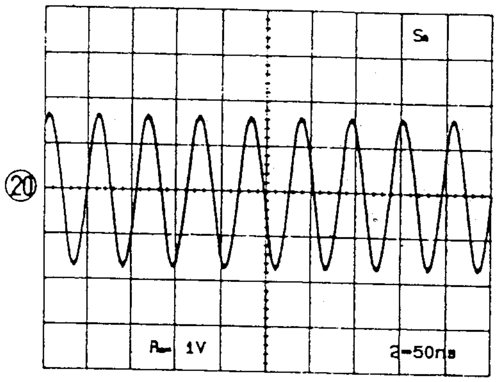
INPUT : COLOR BAR

⑲ IC401 Pin ④



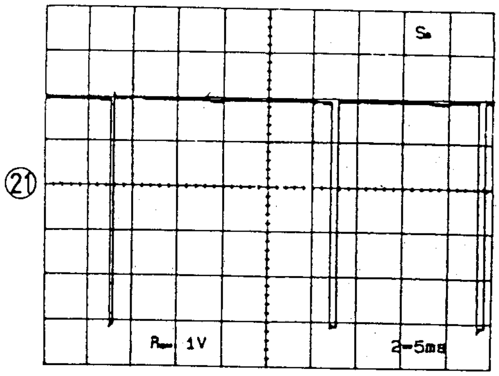
20 μ s/div.
1V/div.

⑳ IC401 Pin ⑥



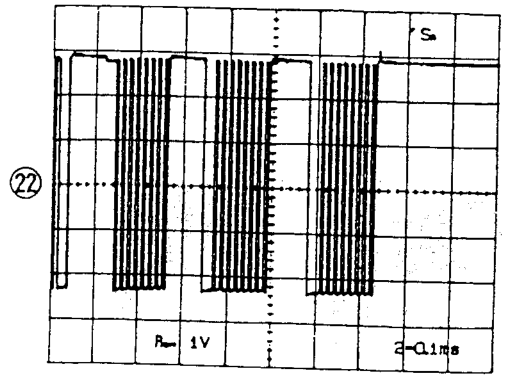
50ns/div.
1V/div.

㉑ IC401 Pin ⑧



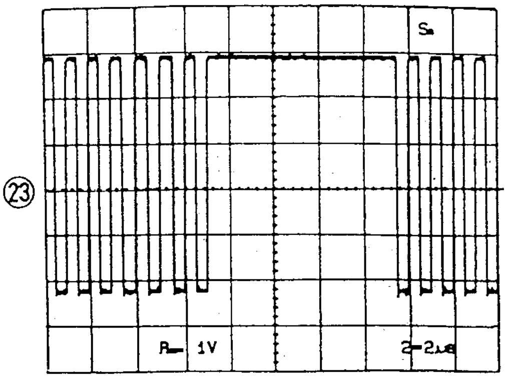
5ms/div.
1V/div.

㉒ IC401 Pin ⑨



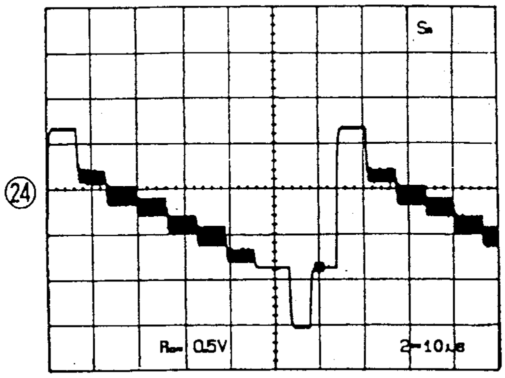
0.1ms/div.
1V/div.

㉓ IC401 Pin ⑩



2 μ s/div.
1V/div.

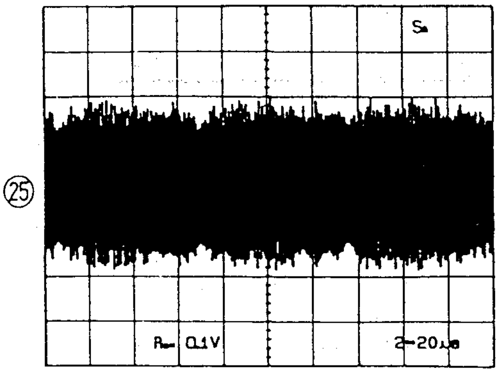
㉔ IC401 Pin ⑳



10 μ s/div.
0.5V/div.

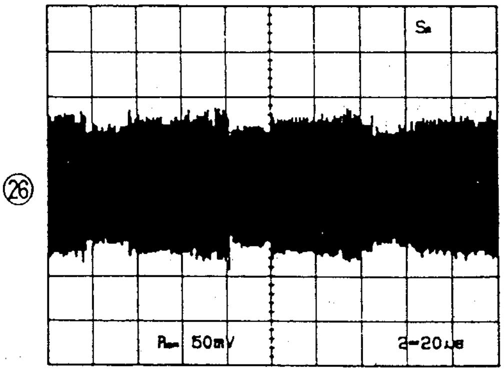
(HEAD AMP – VIDEO)

MODE : PB
TEST TAPE : TTV – P1, PLAY BACK
㉕ Q508 Emitter



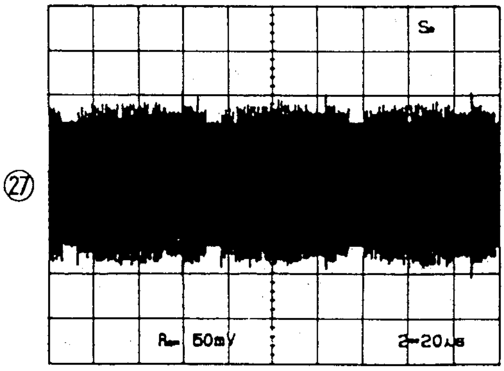
20 μ s/div.
0.1V/div.

㉖ Q505 Emitter



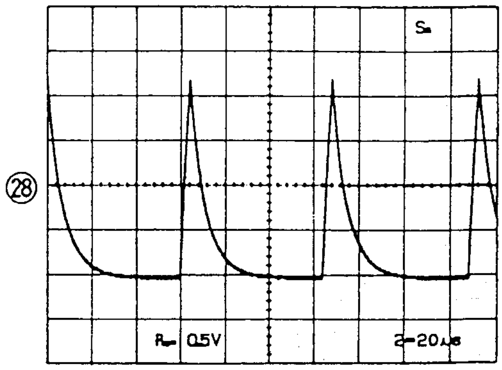
20 μ s/div.
50mV/div.

MODE : REC
INPUT : COLOR BAR
㉗ IC501 Pin ⑭



20 μ s/div.
50mV/div.

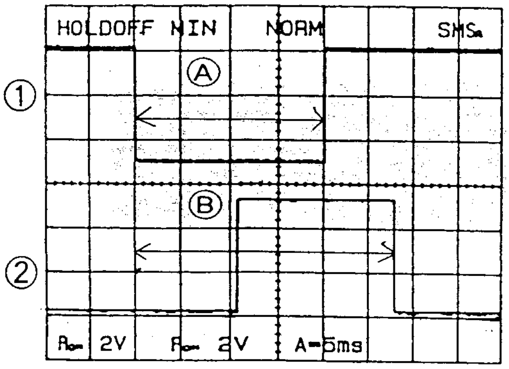
㉘ IC501 Pin ⑰



20 μ s/div.
0.5V/div.

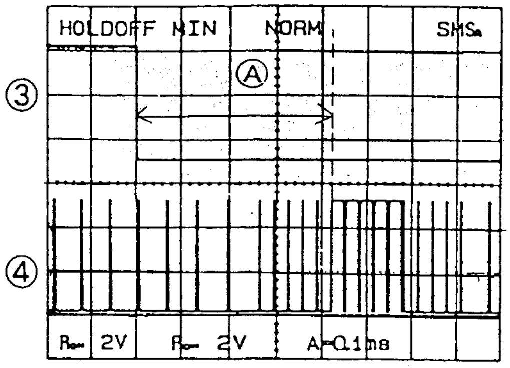
WAVEFORM – 2 (SS/VPS)

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
① IC101 Pin ⑭ (HSW – V)
② IC101 Pin ㉗ (CHECK : SERVICE MODE1/PUSH MENU/SELECT "CTLP")



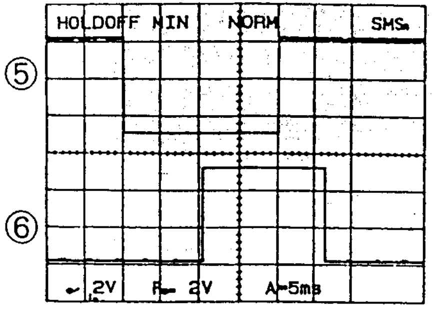
5ms/div.
2V/div.
(Tracking position center)
5ms/div.
2V/div.
Ⓐ 20msec (TTV–P1) 16.67msec (TTN–N1)
Ⓑ 26msec (TTV–P1) 19.8msec (TTV–N1)

MODE : PB
TEST TAPE : TTV – P1
③ IC101 Pin ⑭ (HSW – V)
④ IC101 Pin ㉜ (C SYNC)



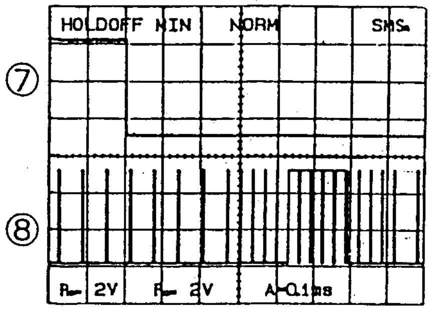
0.1ms/div.
2V/div.
0.1ms/div.
2V/div.
Ⓐ 416±96μsec (TTV–P1) 412 ± 96μsec (TTV–N1)

MODE : REC, SP INPUT : PAL
TEST TAPE : T – 120
⑤ IC101 Pin ⑭ (HSW – V)
⑥ IC101 Pin ㉗ (CHECK : SERVICE MODE1/PUSH MENU/SELECT "CTLP")



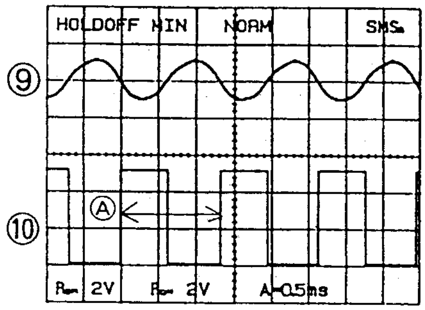
5ms/div.
2V/div.
(Tracking position center)
5ms/div.
2V/div.

MODE : REC, SP INPUT : PAL
TEST TAPE : T – 120
⑦ IC101 Pin ⑭ (HSW – V)
⑧ IC101 Pin ㉜ (C SYNC)



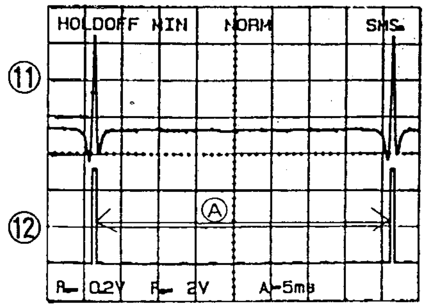
0.1ms/div.
2V/div.
0.1ms/div.
2V/div.

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
⑨ IC101 Pin ⑭ (CAP FG)
⑩ IC101 Pin ㉗ (CHECK : SERVICE MODE1/PUSH MENU/SELECT "CFG")



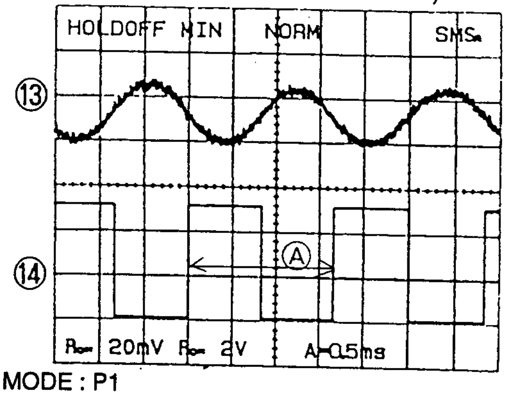
0.5ms/div.
2V/div.
0.5ms/div.
2V/div.
Ⓐ 1.32 msec (TTV–P1) 0.93msec (TTV–N1)

MODE : PB
TEST TAPE : TTV – P1
⑪ IC101 Pin ㉕ (DRUM PG)
⑫ IC101 Pin ㉗ (DRUM PG : SERVICE MODE1/PUSH MENU/SELECT "DPG")



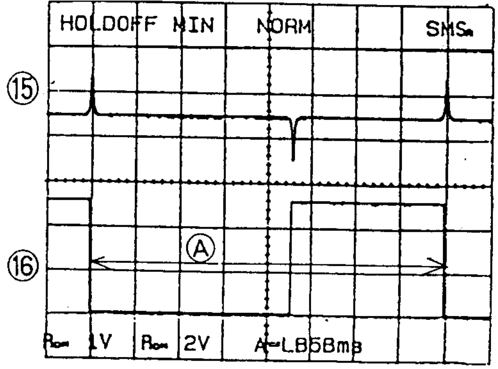
5ms/div.
0.2V/div.
5ms/div.
2V/div.
Ⓐ 40msec (TTV–P1) 33msec (TTV-N1)

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
⑬ CN101 Pin ㉓ (DRUM FG)
⑭ IC101 Pin ㉗ (DRUM FG : SERVICE MODE1/PUSH MENU/SELECT "DFG")



0.5ms/div.
20mV/div.
0.5ms/div.
2V/div.
Ⓐ 1.67msec (TTV–P1) 1.39msec (TTV–N1)

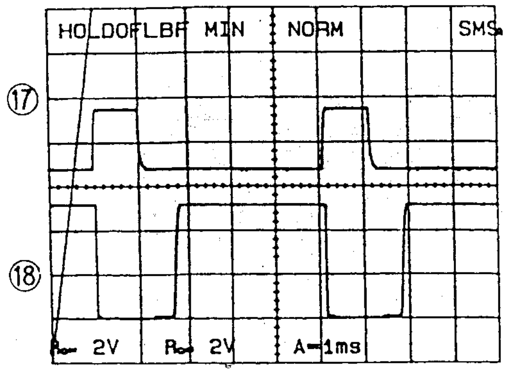
MODE : P1
TEST TAPE : TTV – P1
⑮ IC101 Pin ⑪ (PB CTL)
⑯ IC101 Pin ⑫ (CHECK : SERVICE MODE1/PUSH MENU/SELECT "CTLP")



LB58ms/div.
1V/div.
LB58ms/div.
2V/div.

Ⓐ 40msec(TTN–P1) 33msec(TTV–N1)

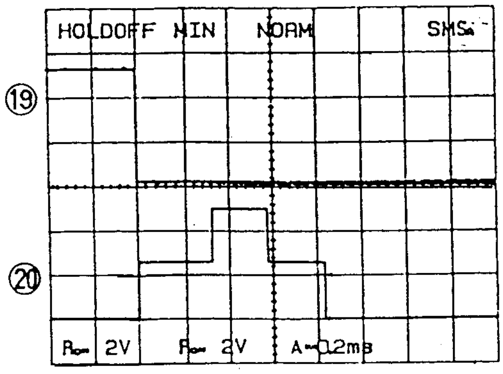
MODE : EE
⑰ Q104 BASE (TOP/END SENS LED)
⑱ IC101 Pin ⑮ (TOP SENS)



1ms/div.
2V/div.

1ms/div.
2V/div.

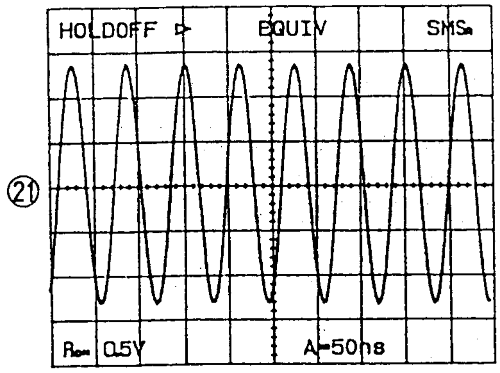
MODE : STILL
TEST TAPE : TTV – P1
⑲ IC101 Pin (94) (HSW – V)
⑳ IC101 Pin (98) (JOG VD)



0.2ms/div.
2V/div.

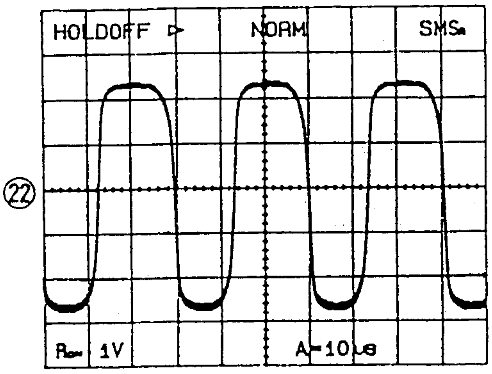
0.2ms/div.
2V/div.

MODE : EE
㉑ CHECK RAND 16M, IC101 Pin ㊷



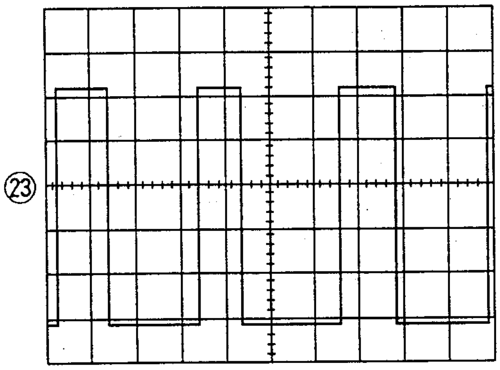
50ns/div.
0.5V/div.

MODE : EE
㉒ CHECK RAND 32K, IC101 Pin (87)



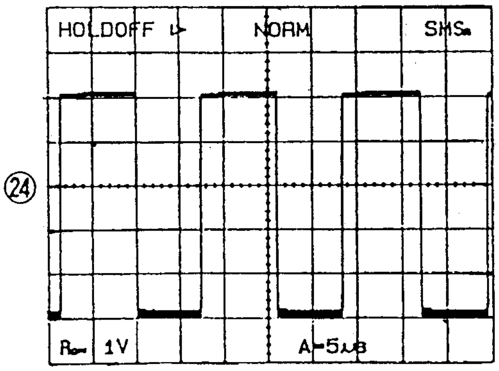
10 μ s/div.
1V/div.

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
㉓ IC101 Pin (79) (DRUM PWM)



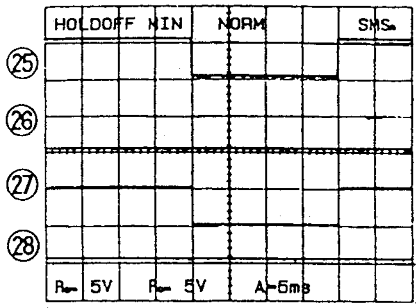
5 μ s/div.
0.2V/div.

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
㉔ IC101 Pin (78) (CAP PWM)



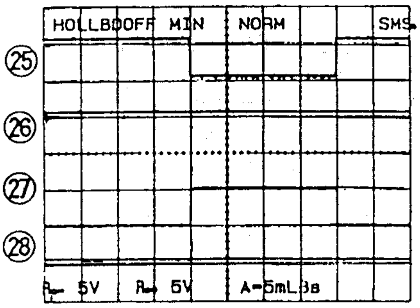
5 μ s/div.
1V/div.

MODE : PB
TEST TAPE : TTV – P1, TTV – N1
㉕ IC101 Pin (94) (HSW – V)
㉖ IC101 Pin (92) (H SEL)
㉗ IC101 Pin (93) (C ROT)
㉘ IC101 Pin ㉒ (DENV)



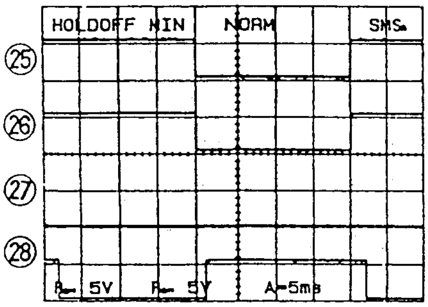
5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.

MODE : PB
TEST TAPE : TTV – P1L, TTV – N1E
㉕ IC101 Pin (94) (HSW – V)
㉖ IC101 Pin (92) (H SEL)
㉗ IC101 Pin (93) (C ROT)
㉘ IC101 Pin ㉒ (DENV)



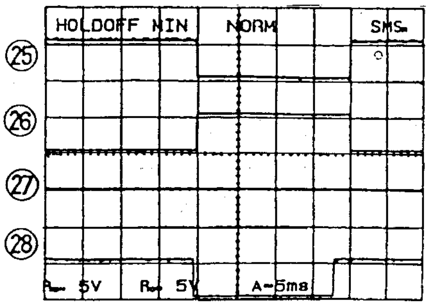
5mLBs/div.
5V/div.
5mLBs/div.
5V/div.
5mLBs/div.
5V/div.
5mLBs/div.
5V/div.

MODE : STILL
TEST TAPE : TTV – P1, TTV – N1
㉕ IC101 Pin (94) (HSW – V)
㉖ IC101 Pin (92) (H SEL)
㉗ IC101 Pin (93) (C ROT)
㉘ IC101 Pin ㉒ (DENV)



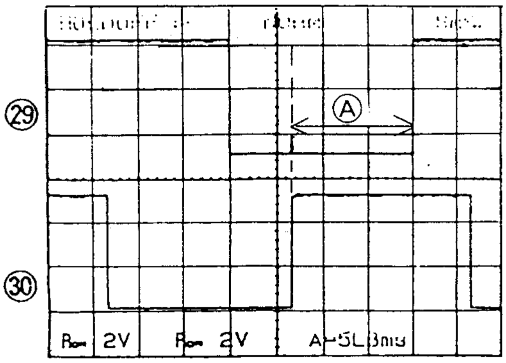
5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.

MODE : STILL
TEST TAPE : TTV – P1L, TTV – N1E
㉕ IC101 Pin (94) (HSW – V)
㉖ IC101 Pin (92) (H SEL)
㉗ IC101 Pin (93) (C ROT)
㉘ IC101 Pin ㉒ (DENV)



5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.
5ms/div.
5V/div.

MODE : PB
TEST TAPE : TTV – P7, TTV – N7A
㉙ IC101 Pin (94) (HSW – V)
㉚ IC101 Pin (95) (HSW – A)

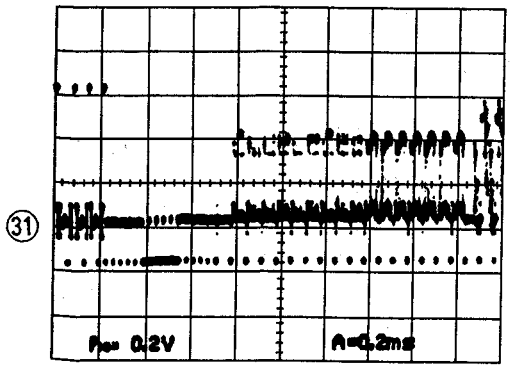


.5LBms/div.
2V/div.

5LBms/div.
2V/div.

Ⓐ 13.3±0.2msec
(TTV–P7)
11.1±0.2msec
(TTV-N7A)

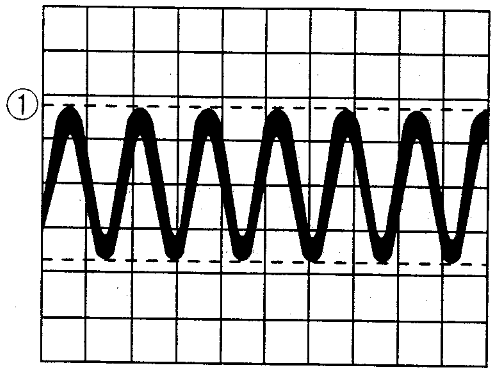
MODE : RF (PDC SIGNAL)
㉛ IC201 Pin ⑬ (CBVS)



0.2ms / div
0.2V / div

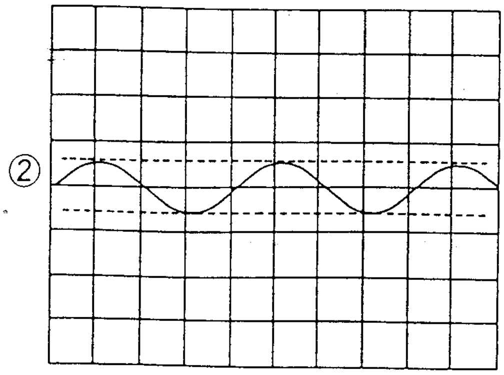
WAVEFORM – 3 (TUNER/CANAL/ SOUND EFFECT)

(TUNER SECTION)
① CN802 Pin ① (SIF)



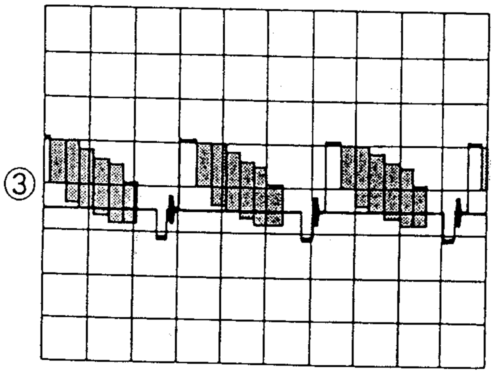
0.1μs / div
0.1V / div

(CANAL SECTION)
② CN2 PIN ③ 21-OUT-L (NORMAL, GAIN = 0dB)
② CN2 PIN ① 21-OUT-R



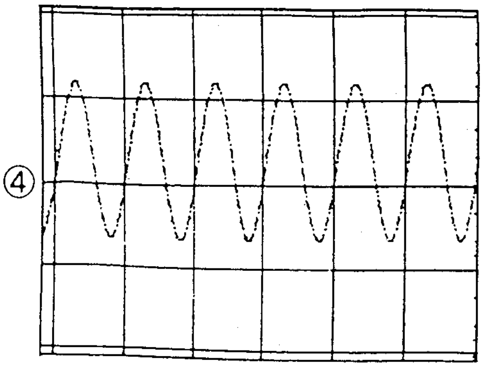
5ms/div.
2V/div.

MODE : STANDBY, P ON
③ CN2 Pin ⑳ (VIDEO IN)



20 μ s/div.
0.5V/div.

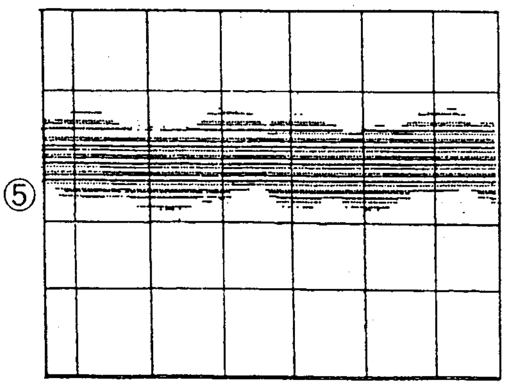
(HiFi SECTION)
④ IC701 Pin ㉑
④ IC701 Pin ㉒



1ms/div.
500mV/div.

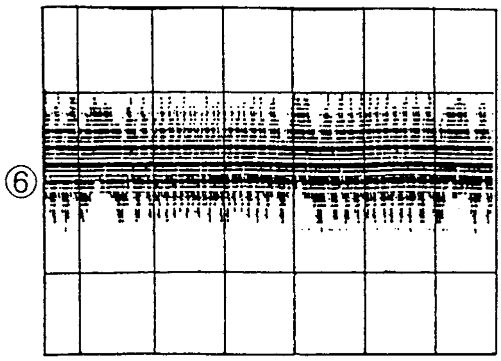
1ms/div.
500mV/div.

MODE : REC SP (NO SIGNAL)
⑤ IC701 Pin (56)



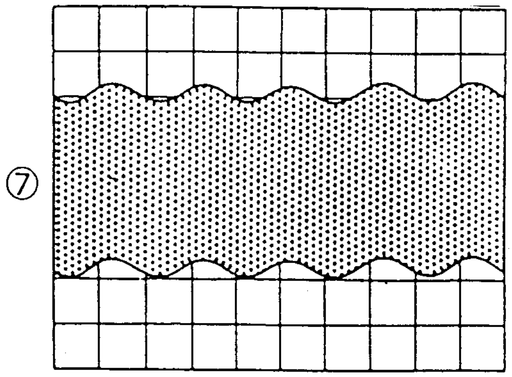
500 μ s/div.
500mV/div.

MODE : PB
TEST TAPE : TTV – P7, TTV – N7A
⑥ IC101 Pin (57)



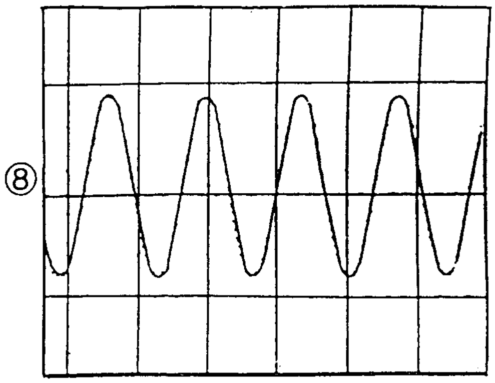
200 μ s/div.
500mV/div.

MODE : REC SP
INPUT : 1kHz/–8dBs
⑦ CN701 Pin ②



0.5ms/div.
20mV/div.

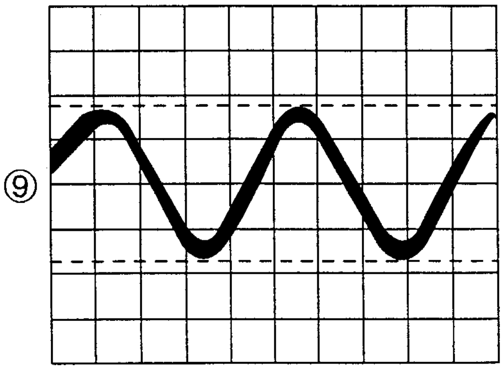
MODE : REC SP (NO SIGNAL)
⑧ BT702 Pin ①



10 μ s/div.
20V/div.

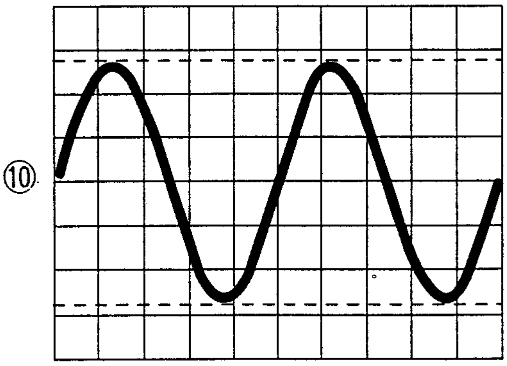
(SOUND EFFECT SECTION)

⑨ IC771 Pin ㉒ or ⑫



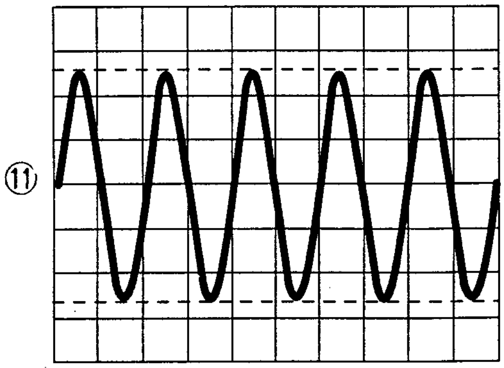
20μs / div
0.5V / div

⑩ IC71 Pin ⑥ or ⑪



20μs / div
0.5V / div

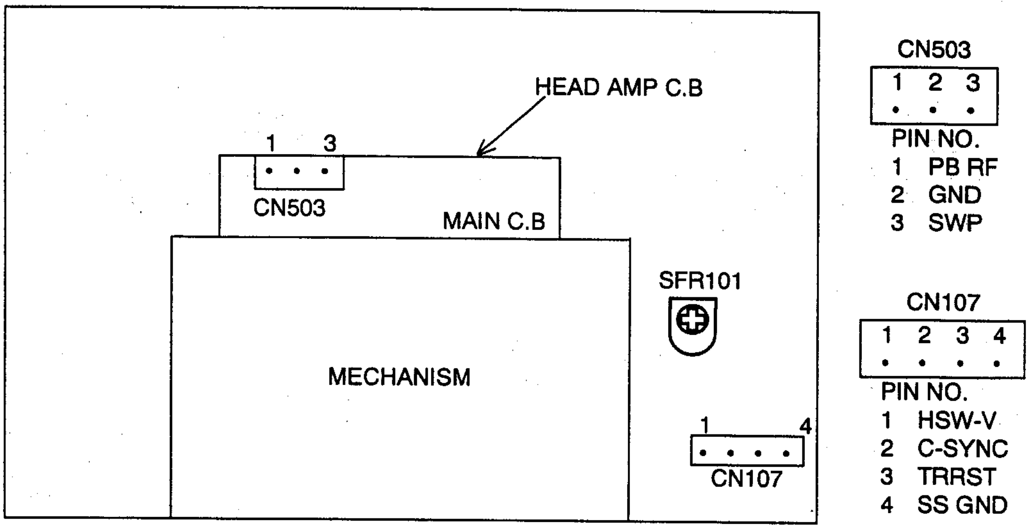
⑪ IC72 Pin ③ or ⑧



0.5ms / div
0.1V / div

ELECTRICAL ADJUSTMENT

1.SERVICE LOCATIONS

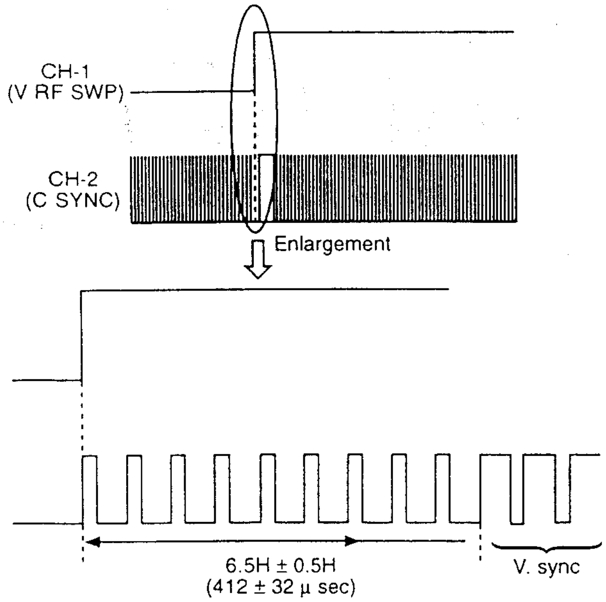

HEAD AMP C.B
1
3
CN503
MAIN C.B
MECHANISM
SFR101
1
4
CN107
CN503
1 2 3
PIN NO.
1 PB RF
2 GND
3 SWP
CN107
1 2 3 4
PIN NO.
1 HSW-V
2 C-SYNC
3 TRRST
4 SS GND

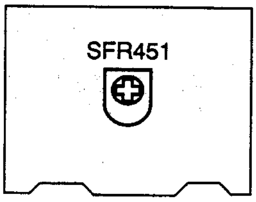
FRONT VIEW

2. Switching Position Adjustment

Mode : Playback CH-2 (2) or TTV-P1
Osilloscope : CH-1 : CN107 (C SYNC)
CH-2 : CN107 (HSW-V)

Adjustment procedure
(1) Set the tracking to the center.
* Short the TRRST (CN107) terminal to GND.
(2) Adjust SFR101 so that the RF SWP leading edge is 416 ± 32 μsec from V-SYNC.
(3) Release the short-circuit between TRRST and GND.


CH-1
(V RF SWP)
CH-2
(C SYNC)
Enlargement
6.5H ± 0.5H
(412 ± 32 μ sec)
V. sync

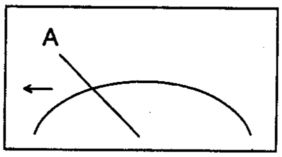


ZWEITON C.B

3. Channel Separation Adjustment

Mode : EE
(PM5418 TDS1) TV Signal generator voltmeter
Signal generator : PAL color bar
fp : 48.25 MHz (VHF)
Level : 60 dBμ
System : B/G PAL
PDC data : off

[ZWEITON sound]
1ch : No signal
2ch : 1 kHz
Adjustment method :
(1) Audio output (Lch)
Audio monitor : STEREO
22kΩ terminated



(2) Adjust SFR451 so that the voltmeter reads -40dBm.

SERVICE MODE

1. Engaging the Service Mode

Short the service jumpers on the Front C.B to start the service mode. Each time it is shorted, the mode changes as follows.

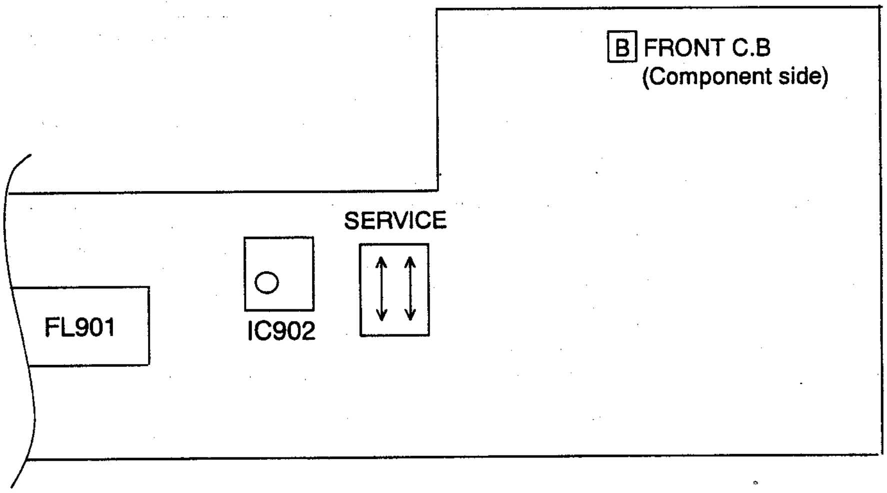
Service mode 1→2→3→4→5→Normal mode. <Z only>

Service mode 1→2→3→Normal mode. <AE only>

Caution : The above method cannot be used unless communications between the IC on the FRONT C.B and the microprocessor are normal.

2. Releasing the Service Mode

If the mode switching operation is performed after starting, the normal mode is entered after mode 3 (AE), mode 5 (Z) (the service mode is released). The service mode is also released when the power cord is unplugged from the AC outlet and is plugged in again.


B FRONT C.B
(Component side)
SERVICE
FL901
IC902

3. Details of Service Mode

1) Service mode 1

The following statuses is displays in FL display. (FL901)

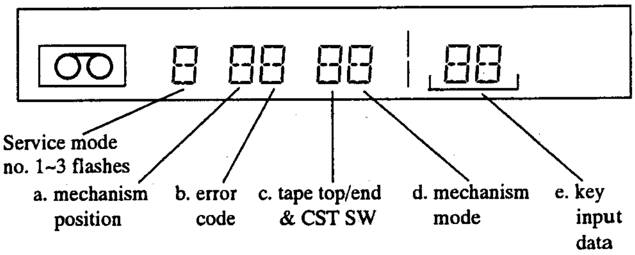
a. Mechanism position

b. Error code

c. Tape top/end sensor and CST SW data

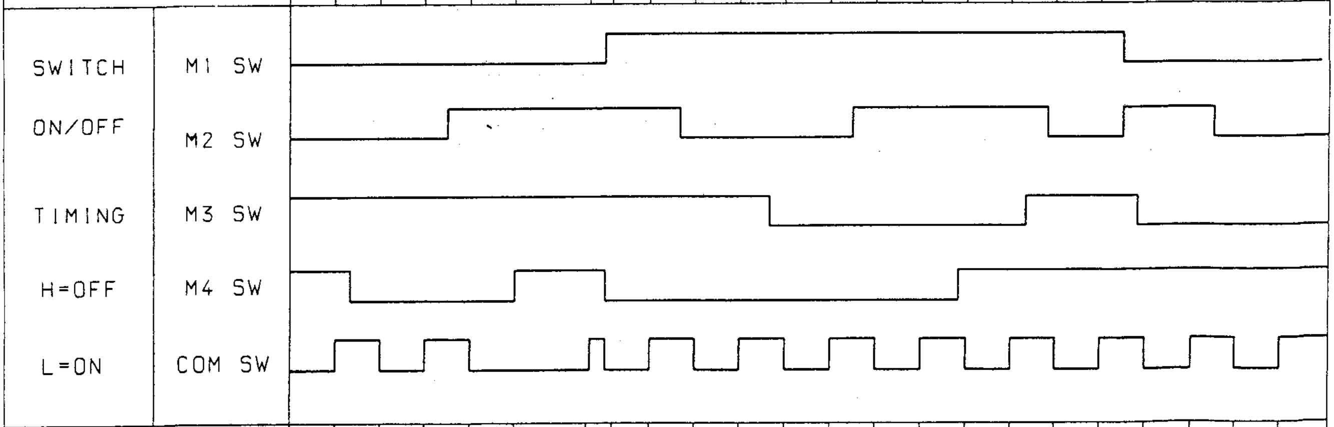
d. Mechanism operation mode

e. Key input codes (front keys and remote codes)


Service mode no. 1~3 flashes
a. mechanism position
b. error code
c. tape top/end & CST SW
d. mechanism mode
e. key input data

a) Mechanism position

POSITION NO.		1	2	3	4	5	6		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
POSITION NAME		EJECT		SREW		ES	LOAD		REW		FF		STOP		PLAY		FSLW		CT		RSLOW		REVERSE	
POSITION CODE	M1	0	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1
	M2	0	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	0	1	1	1	0	1
	M3	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	0	1	0	1
	M4	1	1	0	1	0	1	1	0	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1


SWITCH
ON/OFF
TIMING
H=OFF
L=ON
M1 SW
M2 SW
M3 SW
M4 SW
COM SW

b. Error code

Error Code	Details	State
0	Normal	–
1	Cassette loading error	If CST SW : L → H cannot be detected within 6 seconds after cassette-in is detected.
2	Cassette eject error	If CST SW : H → L cannot be detected within 3 seconds after eject is started or if cassette-out cannot be detected (top sensor) within 6 seconds after CST SW.
3	Sledding error	If transfer to the subsequent operation position cannot be done within 6 seconds after sledding is started.
4	Unsledding error	If transfer to the subsequent operation position cannot be done within 6 seconds after unsledding is started.
5	Leader proccessing error	If the processing of the leaders at the tape top/end is not finished within 6 seconds
6	T-reel sensor	If T-reel pulse is not detected for more than 8 seconds when the tape is running.
7	S-reel sensor	If S-reel pulse is not detected for more than 8 seconds when the tape is running.
8	Drum error	If DFG pulse is not detected for more than 8 seconds when the tape is running.
9	Protect error	If PRT-L is detected for more than 1 seconds when the power the power is turned on.
A	Mechanism state error	Error caused by the mechanism position switch. (Normal : 1 → F → 3)
B	Capstan error	If CFG pulse is detected for more than 2 seconds when the capstan is rotating. It is ignored during eject.

c. Top/end sensor and CST SW data

Bit	Details of data	
1	End sensor	Bit =1 when leader is detected (ON)
2	Top sensor	Bit =1 when leader is detected (ON)
3	CST SW	Bit =1 when SW (L) is detected.

Example : "6" is displayed during eject

Bit 3 2 1

1 1 0 = 6

End sensor OFF

Top sensor ON

CST SW = L

d. Operation mode

0	Power on (with tape)
1	Power on (without tape)
2	Stop (Drum rotating)
3	FF
4	REW
5	PLAY
6	CUE
7	REVIEW

8	Still/slow
9	REC
A	REC PAUSE
b	Power off (without tape)
C	Power off (with tape)
d	Reverse play
E	Reverse slow/still

f) Key input code

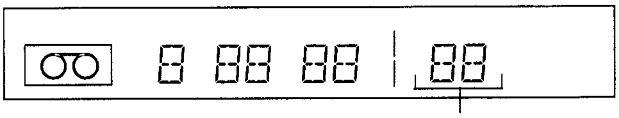
00	POWER	12	ATR	20	0	2F	SERVICE
01	EJECT	13	(+)	21	1	31	MENU
02	STOP	14	(-)	22	2	32	NEXT ►
03	FF	15	<TRK. CENTER>	23	3	33	BACK ◄
04	REW	16	VIDEO PLUS	24	4	34	CLEAR
05	PLAY	18	D WLY	25	5	35	DISPLAY
06	REC	19	ADD.T	26	6	36	CH NO
07	PAUSE/STILL	1A	PDC	27	7	37	CLOCK SET
08	JOG	1C	AMON	28	8	38	AUTO SET
09	V. FWD	1E	INDEX (+) ►►|	29	9	39	OK
0A	V. RVS	1F	INDEX (-) |◄◄	2A	CH UP	3A	CUR UP ▲
0B	OTPB			2B	CH DOWN	3B	CUR DOWN ▼
0C	SP/LP			2C	TV/VCR	3C	BBE
0D	C-RESET			2D	INPUT	3D	DYNAMIC
0E	C-MEMO	10	INDEX MARK	2E	GUIDE	3E	MIDNIGHT

The displayed codes are the intermediate codes when the microprocessor is operating, the numerics do not show the actual remote control codes. If the operations are different when the same keys are pressed, the displayed codes may be different.

Example : Shuttle ring on the VCR; in STOP it is a transfer to FF/REW keys.
It is a special effects playback command during still/play, JOG (08) is displayed.

2) Service mode 2
Disable the following sensor inputs.
a) Top/end sens (apart from when the cassette is being inserted and ejected)
b) Reel data
This mode is used when a summy tape is running.

3) Service mode 3
Advances the clock speed 60 times. When this mode is used to check timer recording, the data on seconds is ignored, so this mode should be left one minute before the timer recording.



The data is displayed during power off

4) Service Mode 4
The VPS signal superimposed on the picture currently being received is displayed in this mode.
This mode is used to check the characteristics of the VPS signal which is currently being received.
If a VPS signal is included, a number is displayed and if no VPS signal is present, the previous data is held or a bar is displayed.

VPS DATA

COUNTRY -
NETWORK --
PIL -- --- --:--
PCS -
PTY -

Signal name	Description	Use
COUNTRY	Country code.	Codes which identify the country from which a program is broadcast and the broadcast station.
NETWORK	Network code.	Code which controls the time of program (day, month, hour, minute).
PIL	Record flag	Code which controls the recording start/end.
PCS	Not use.	-
PTY	Not use.	-

5) Service Mode 5

The UDT signal superimposed on the picture currently being received is displayed in this mode.

This mode is used to check the characteristics of the UDT signal which is currently being received.

If a UDT signal is included, a number is displayed and if no UDT signal is present, the previous data is held or a bar is displayed.

UDT DATA

NIC	5FF6
MJD	E4 • 88 • 41
UTC	8 : 56 : 32
TOC	00
PWM	89AB
AGC	8B

Signal name	Description
NIC	Country identification code
MJD	Value obtained by processing Greenwich Main Time using a microprocessor. As this is encoded, the time cannot be found from it.
UTC	Time for which the signal is transmitted.
TOC	Time difference from the standard time.
PWM	The approximate frequency of the tuned station can be found from this value.
AGC	The approximate signal strength of the tuned station can be found from this value.

- By operating OSD, the servo wavefom is output at IC101 pin 27 test terminal. (C-FG, D-FG, D-PG, PB CTL) (Press the MENU key to select 5 DEBUG)

MENU

→ 1 PROGRAM TIMER
2 SYSTEM
3 TUNING
4 SECURITY MENU

SELECT : ▼ . ▲ → OK
EXIT : MENU

CHECK OUT

• C-FG • D-FG • D-PG • CTLP

SET : ◀ ▶
PRESS OK

IC DESCRIPTION

IC, LC74763M-9655-TLM

Pin No.	Pin Name	I/O	Description
1	VSS	—	Connect to ground.
2	Xtal IN1	I	For the connection of a crystal oscillator and capacitors composing the crystal oscillator circuit which generates internal sync signals. The crystal oscillator circuit is selected by command.
3	Xtal OUT1	O	
4	HSYNCOUT	O	Outputs a horizontal sync signal (AFC). The output polarity can be selected. (Metal option) Alternatively, a general-purpose port output (switched by command).
5	Xtal IN2	I	For the connection of a crystal oscillator and capacitors composing the crystal oscillator circuit which generates internal sync signals.
6	Xtal OUT2	O	
7	VSYNCOUT	O	Outputs a vertical sync signal. The output polarity can be selected. (Metal option) Alternatively, a general-purpose port output (switched by command).
8	$\overline{CS}$	I	Input to enable serial data input. "L" input enables serial data input (hysteresis input). A pull-up resistor is incorporated. (Metal option)
9	SIN	I	Serial data input (hysteresis input). A pull-up resistor is incorporated. (Metal option)
10	SCLK	I	A clock signal is input to receive the serial data (hysteresis input). A pull-up resistor is incorporated. (Metal option)
11	FE ON	I	Full erase head oscillation control signal. "L" for OFF, "H" for ON.
12	SOUND 3	I/O	Sound circuit control signal BBE ON = L
13	SOUND 2	I/O	Sound circuit control signal MIDNIGHT ON = L
14	SOUND 1	I/O	Sound circuit control signal DYNAMIC ON = L
15	$\overline{RST}$	I	System reset input (active "L"). (Hysteresis input) A pull-up resistor is incorporated. (Metal option)
16	C VOUT	O	Composite video signal output
17	VDD2	—	Power supply which creates the level of the composite video signal.
18	CVIN	I	Composite video signal input
19	CVCR	I	SECAM chroma signal input
20	SYNCIN	I	Video signal input of internal sync separator
21	SEPC	O	Bias output of the internal sync separator
22	VSS	—	Ground
23	P DOUT	O	AFC control voltage input
24	AMPIN	I	For the connection of a filter of the AFC circuit.
25	AMPOUT	O	
26	FC	I	AFC control voltage input
27	VCOIN	I	For the connection of a coil and capacitors which compose an LC oscillator for the VCO.
28	VCOOUT	O	
29	SYNCDET	O	EX-NOR output of horizontal sync signal (APC) and C. SYNC (sync separator). The output polarity can be selected. (Metal option) Alternatively, general-purpose port output (switched by command).
30	VDD1	—	Power supply (+5 V of digital circuits)

Signal / Function	Dynamic	Midnight	BBE	Through
SOUND 1	L	H	H	H
SOUND 2	L	H	L	L
SOUND 3	H	H	L	H

IC, CXP88860-112Q

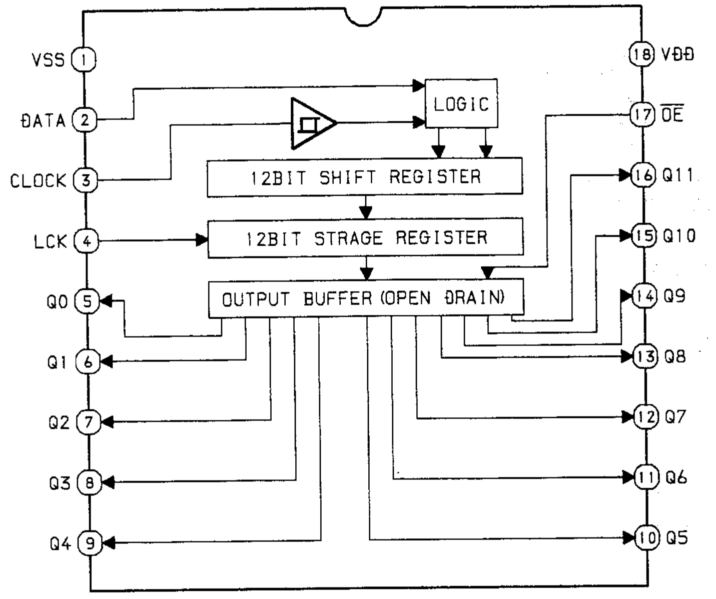
<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>$\overline{\text{SP}}$/LP</td><td>O</td><td>Video/audio switching signal. “L” in the SP mode</td></tr>
<tr><td>2</td><td>LED LCK</td><td>O</td><td>Latch signal to transfer data to the LED driver.</td></tr>
<tr><td>3</td><td>$\overline{\text{50}}$/60</td><td>O</td><td>Video control signal. “L” in 50-field mode, “H” in 60-field mode.</td></tr>
<tr><td>4</td><td>SSB SCK</td><td>O</td><td>Clock signal for transfer to the video IC</td></tr>
<tr><td>5</td><td>SSB DATA</td><td>O</td><td>Data signal for transfer to the video IC</td></tr>
<tr><td>6</td><td>SENS LED</td><td>O</td><td>Top/end sensor LED drive signal</td></tr>
<tr><td>7</td><td>RF SW</td><td>I</td><td>“L” in normal mode, “H” in RF adjustment mode.</td></tr>
<tr><td>8</td><td>VPB</td><td>O</td><td>Video HA playback system ON signal. Outputs “H” during playback.</td></tr>
<tr><td>9</td><td>IIC SDA</td><td>I/O</td><td>Data signal for communications with the IIC bus (Hi-Fi/NICAM/PDC/EEPROM).</td></tr>
<tr><td>10</td><td>BLANC</td><td>—</td><td>Blanc</td></tr>
<tr><td>11</td><td>CAP $\overline{\text{F}}$/R</td><td>O</td><td>Capstan reverse signal. “L” for forward drive, “H” for reverse drive.</td></tr>
<tr><td>12</td><td>CAP FULL</td><td>O</td><td>Capstan acceleration signal. “H” during acceleration.</td></tr>
<tr><td>13</td><td>LOAD</td><td>O</td><td rowspan="2">Loading motor drive control outputs
<table>
<tr><td>LOAD</td><td>L</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>UNLOAD</td><td>L</td><td>L</td><td>H</td><td>H</td></tr>
<tr><td></td><td>Stop</td><td>Forward</td><td>Reverse</td><td>Brake</td></tr>
</table></td></tr>
<tr><td>14</td><td>UNLOAD</td><td>O</td></tr>
<tr><td>15</td><td>TOP – SENS</td><td>I</td><td>Tape start detection signal</td></tr>
<tr><td>16</td><td>END – SENS</td><td>I</td><td>Tape end detection signal</td></tr>
<tr><td>17</td><td>MODE SW1</td><td>I</td><td>Mechanism mode switch 1</td></tr>
<tr><td>18</td><td>MODE SW2</td><td>I</td><td>Mechanism mode switch 2</td></tr>
<tr><td>19</td><td>MODE SW3</td><td>I</td><td>Mechanism mode switch 3</td></tr>
<tr><td>20</td><td>MODE SW4</td><td>I</td><td>Mechanism mode switch 4</td></tr>
<tr><td>21</td><td>CST SW</td><td>I</td><td>Cassette-down signal</td></tr>
<tr><td>22</td><td>DENV</td><td>I</td><td>Video head playback output comparison signal. “H” when the LP head output is higher than the SP head output.</td></tr>
<tr><td>23</td><td>PRT</td><td>I</td><td>Power monitoring input. “H” is input when the regulator power supply is started.</td></tr>
<tr><td>24</td><td>CG DATA</td><td>O</td><td>Outputs serial data for transfer to the OSD IC</td></tr>
<tr><td>25</td><td>CG SCK</td><td>O</td><td>Outputs serial clock for transfer to the OSD IC</td></tr>
<tr><td>26</td><td>$\overline{\text{CG CS}}$</td><td>O</td><td>Chip select signal for transfer to the OSD IC</td></tr>
<tr><td>27</td><td>CHECK</td><td>O</td><td>Analog amp check</td></tr>
<tr><td>28</td><td>TU PWM</td><td>O</td><td>Tuner PWM output</td></tr>
<tr><td>29</td><td>$\overline{\text{RMC}}$</td><td>I</td><td>Remote signal input</td></tr>
<tr><td>30</td><td>IIC SCK</td><td>O</td><td>Clock signal for communication with the IIC bus (Hi-Fi/NICAM/PDC/EEPROM)</td></tr>
<tr><td>31</td><td>$\overline{\text{U BAND}}$</td><td>O</td><td>Tuner band switching signal. “L” for U band</td></tr>
<tr><td>32</td><td>$\overline{\text{H BAND}}$</td><td>O</td><td>Tuner band switching signal. “L” for VH band</td></tr>
<tr><td>33</td><td>$\overline{\text{L BAND}}$</td><td>O</td><td>Tuner band switching signal. “L” for VL band</td></tr>
<tr><td>34</td><td>$\overline{\text{AFT DEF}}$</td><td>O</td><td>AFT ON/OFF signal. “L” for OFF</td></tr>
<tr><td>35</td><td>T MUTE</td><td>O</td><td>Tuner audio muting signal. “L” for muting.</td></tr>
<tr><td>36</td><td>$\overline{\text{JOG}}$</td><td>O</td><td>Special effects playback ON signal. “L” for ON.</td></tr>
<tr><td>37</td><td>CAP UP</td><td>O</td><td>Capstan drive power voltage switching</td></tr>
</table>

Pin No.	Pin Name	I/O	Description
38	$\overline{\text{I - LIMIT}}$	O	I-LIMIT switching signal. "L" for limiting
39	N. C	—	Connected to ground.
40	$\overline{\text{RESET}}$	I	CPU reset input
41	GND	—	Ground
42	XTAL	—	For the connection of a 16 MHz crystal oscillator which generates the main clock signals.
43	EXTAL	—	
44	REC SAFTY	I	Erase prevention switch detection input. "L" input enables recording.
45	$\overline{\text{TEST}}$	I	Test mode start input. "L" to start.
46	MESECAM	O	Video system control signal. "H" for MESECAM
47	POWER	O	Regulator power ON signal. "H" for ON.
48	T - POWER	O	PDC operation power ON signal. "H" for ON.
49	AGC LEVEL	I	A/D input for the tuner reception detection state
50	$\overline{\text{WAKE - UP}}$	I	Power failure detection signal. "H" is input when a power failure has occurred.
51	$\overline{\text{TRRST}}$	I	Tracking adjustment terminal. "L" input sets the tracking to the center.
52	A VSS	—	A/D ground
53	A VREF	—	A/D reference voltage
54	A VDD	—	A/D power supply
55	$\overline{\text{SYNC DET}}$	I	Video signal detection input. "L" when there is a video signal, "L" when there is no video signal.
56	$\overline{\text{DAV}}$	I	PDC transmission enable/disable signal. "L": Transmission is possible.
57	POS	I	A/D input for HSW control
58	A LEVEL	I	Hi-Fi audio envelope detection input for auto tracking (analog input)
59	V LEVEL	I	Video envelope detection input for auto tracking (analog input)
60	AFT CURVE	I	Tuner AFT status detection A/D input
61	VDD	—	+5 V power supply
62	RECCAP	I	Sets the ramp of the written trapezoidal wave
63	AMP VDD	—	Power supply of amp
64	HEAD (–)	I	Connected to the negative (–) terminal of the CTL head.
65	HEAD (+)	I	Connected to the positive (+) terminal of the CTL head.
66	PBCTL (+)	I	The CTL head (+) pulses are input during playback.
67	PBCTL (–)	I	The CTL head (–) pulses are input during playback.
68	AMP (–)	I	CTL first amp negative (–) terminal
69	AMP (+)	I	CTL first amp positive (+) terminal
70	AG	I	For the connection of a smoothing capacitor
71	CTL OUT	O	CTL first amp input
72	CTL IN	I	CTL second amp input
73	Amp VSS	—	Amp ground
74	VREF	O	Outputs a reference voltage for the internal amps.
75	DPG	I	Drum PG input
76	DFG	I	Drum FG input

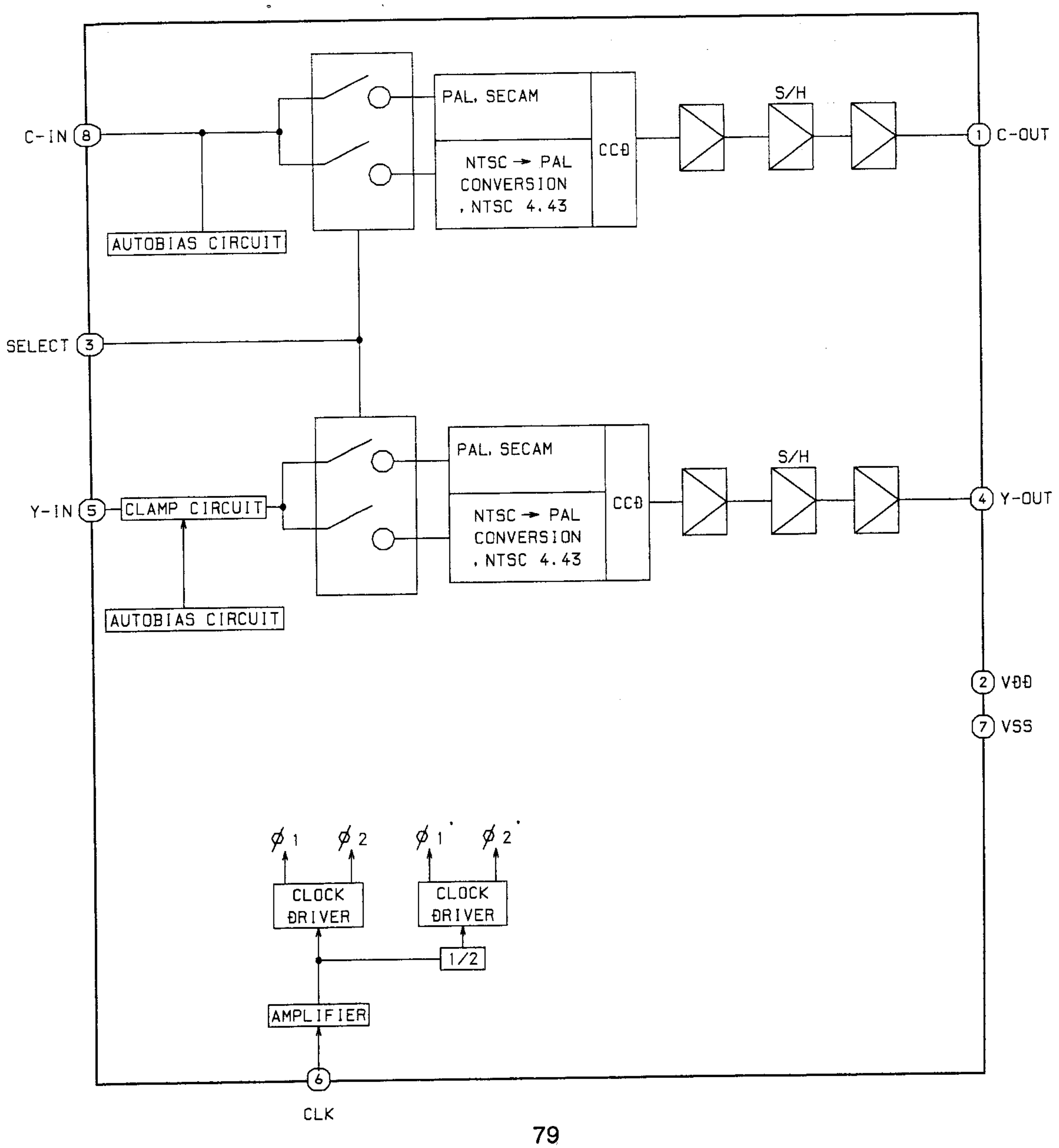
Pin No.	Pin Name	I/O	Description
77	CFG	I	Capstan FG input
78	CAP PWM	O	Capstan control PWM output
79	DRUM PWM	O	Drum control PWM output
80	T REEL	I	Take-up reel rotation detection
81	S REEL	I	Supply reel rotation detection
82	C SYNC	I	Composite sync input
83	FL SI	I	Serial data input to communicate with the FL driver
84	FL DATA	O	Data output to communicate with the FL driver/LED driver IC
85	FL SCK	O	Clock output to communicate with the FL driver/LED driver IC
86	TEX	—	For the connection of a 32.768 kHz crystal which generates a sub-clock signal.
87	TX	—	
88	GND	—	Ground
89	VDD	—	+5 V power supply
90	N. C	—	Connected to a power supply
91	REC – V	O	Video recording ON signal. Outputs "H" when recording
92	H SEL	O	Video head amp switching signal outputs. "H" when the LP head is selected.
93	C ROT	O	Chroma rotation signal. "H" when the Rch head is selected.
94	HSW – V	O	Video head amp switching signal. "H" when the 1 ch head is selected.
95	HSW – A	O	Hi-Fi head switching signal
96	REC – A	O	"H" when the Hi-Fi-HA recording ON signal is recorded.
97	$\overline{\text{FL CS}}$	O	Chip select output for communications with the FL driver.
98	JOG VD	O	Artificial V sync signal
99	TU/$\overline{\text{AV}}$	O	Video input switching signal. "H" for tuner input, "L" for line input.
100	L1/$\overline{\text{L2 ETU}}$	O	Video input switching signal. "H" for AV1, "L" for tuner/AV2.

IC BLOCK DIAGRAM

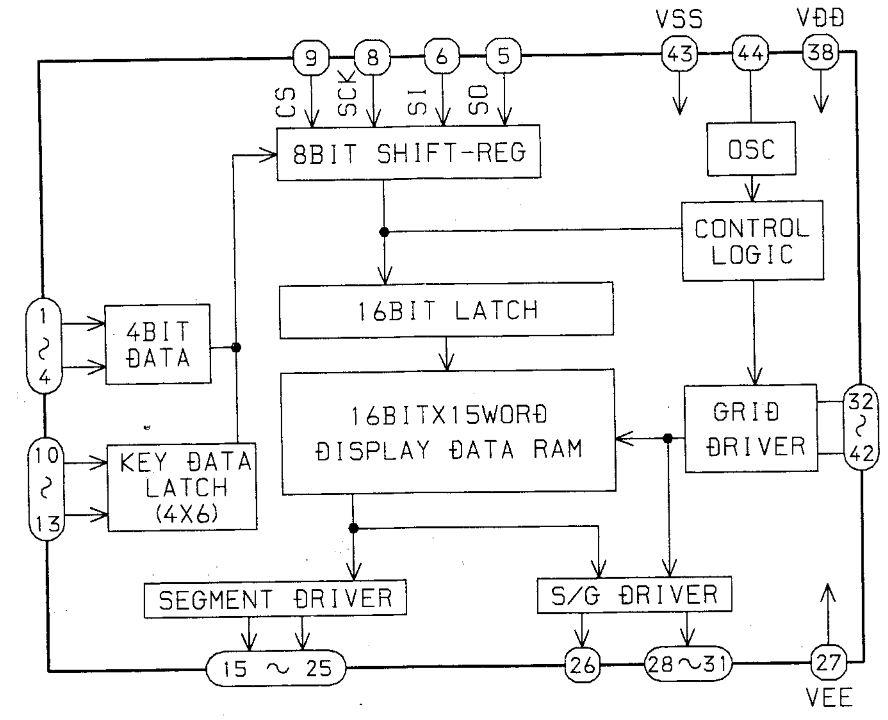
IC, BU2092F


VSS 1
DATA 2
CLOCK 3
LCK 4
Q0 5
Q1 6
Q2 7
Q3 8
Q4 9
18 VDD
17 OE
16 Q11
15 Q10
14 Q9
13 Q8
12 Q7
11 Q6
10 Q5
LOGIC
12BIT SHIFT REGISTER
12BIT STRAGE REGISTER
OUTPUT BUFFER (OPEN DRAIN)

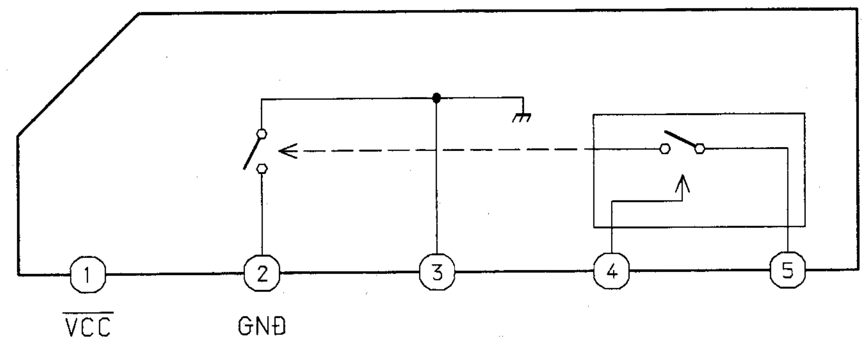
IC, MSM7470-79MS


C-IN 8
AUTOBIAS CIRCUIT
PAL, SECAM
NTSC → PAL CONVERSION , NTSC 4.43
CCD
S/H
1 C-OUT
SELECT 3
Y-IN 5
CLAMP CIRCUIT
AUTOBIAS CIRCUIT
PAL, SECAM
NTSC → PAL CONVERSION , NTSC 4.43
CCD
S/H
4 Y-OUT
2 VDD
7 VSS
φ1
φ2
φ1'
φ2'
CLOCK DRIVER
CLOCK DRIVER
1/2
AMPLIFIER
6
CLK

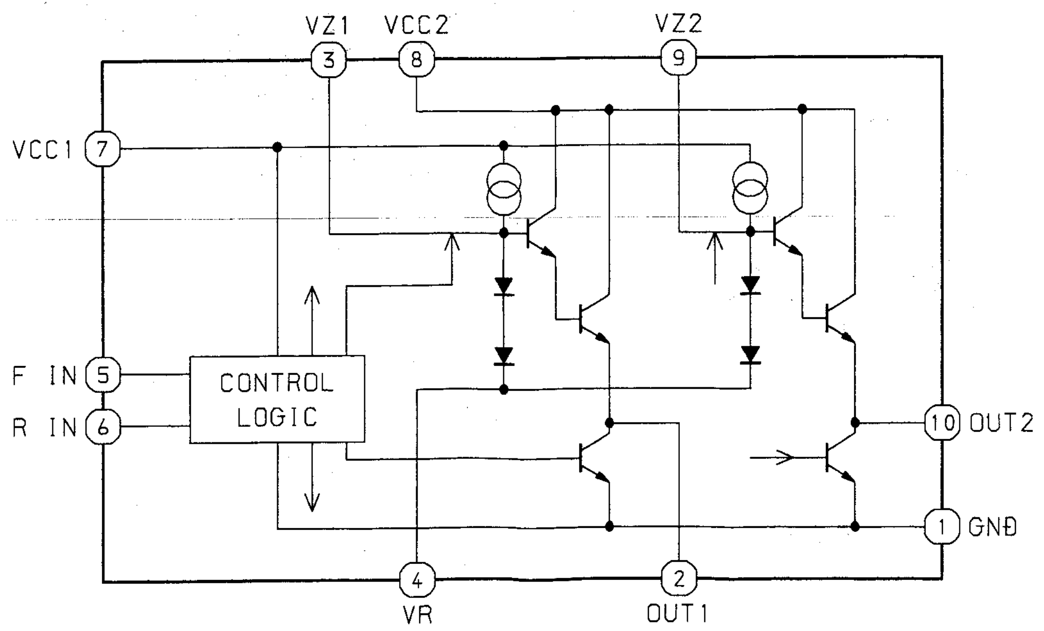
IC, BU2879AK


VSS
VDD
9
8
6
5
43
44
38
CS
SCK
SI
SO
8BIT SHIFT-REG
OSC
CONTROL LOGIC
16BIT LATCH
1 ~ 4
4BIT DATA
10 ~ 13
KEY DATA LATCH (4X6)
16BITX15WORD DISPLAY DATA RAM
GRID DRIVER
32 ~ 42
SEGMENT DRIVER
S/G DRIVER
15 ~ 25
26
28~31
27
VEE

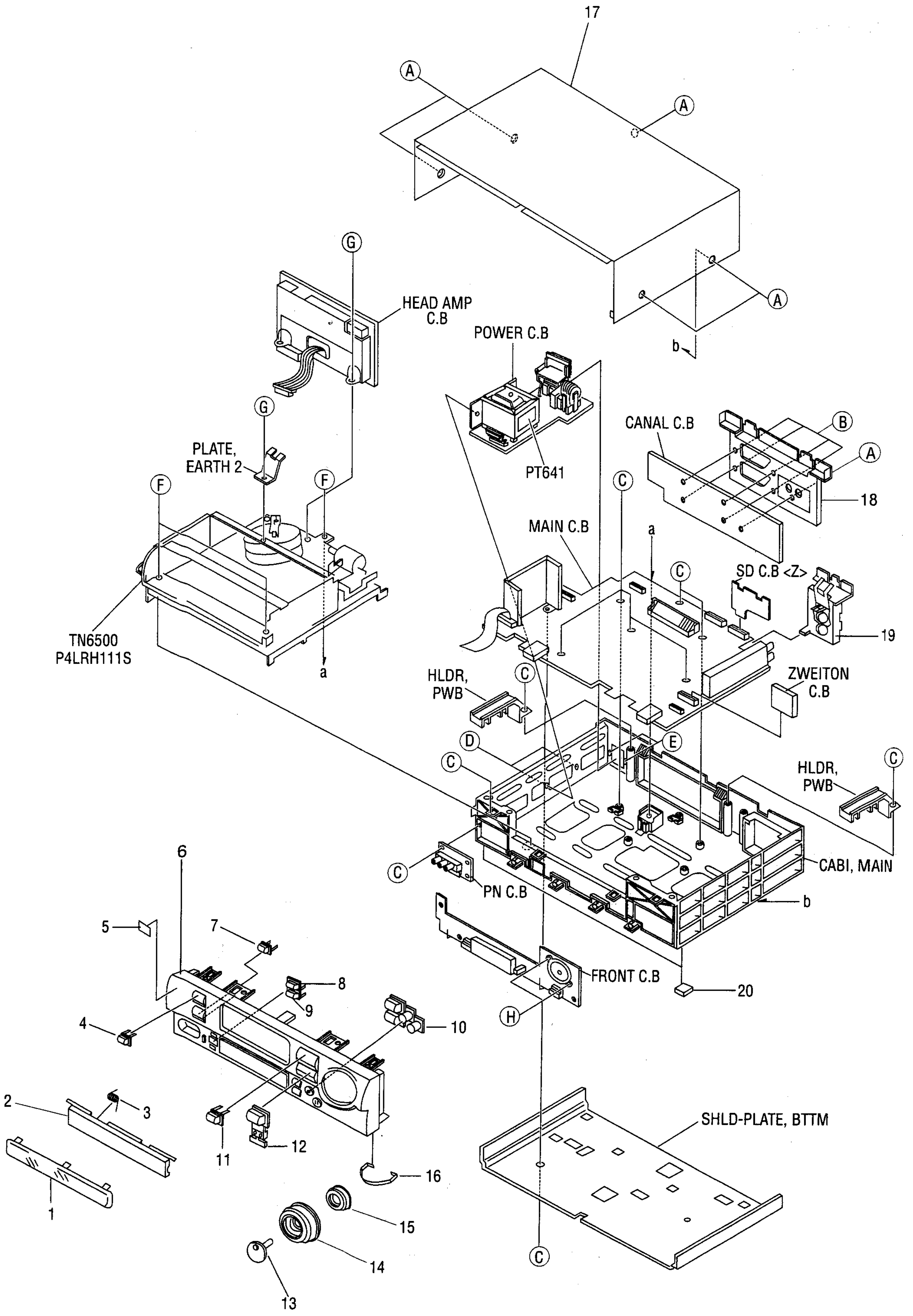
IC, BA7755A


1
2
3
4
5
VCC
GND

IC, BA6209N


VZ1
VCC2
VZ2
3
8
9
VCC1 7
F IN 5
R IN 6
CONTROL LOGIC
10 OUT2
1 GND
4
VR
2
OUT1

MECHANICAL EXPLODED VIEW 1/1


17
Ⓐ
Ⓐ
Ⓐ
Ⓖ
HEAD AMP C.B
POWER C.B
b
Ⓖ
CANAL C.B
Ⓑ
Ⓐ
PLATE, EARTH 2
Ⓕ
Ⓕ
PT641
Ⓒ
18
MAIN C.B
a
Ⓒ
SD C.B <Z>
19
TN6500 P4LRH111S
a
HLDR, PWB
Ⓒ
ZWEITON C.B
Ⓓ
Ⓔ
Ⓒ
HLDR, PWB
Ⓒ
6
CABI, MAIN
Ⓒ
PN C.B
b
5
7
8
9
FRONT C.B
20
4
10
Ⓗ
2
3
SHLD-PLATE, BTTM
11
12
16
1
15
14
13
Ⓒ

MECHANICAL PARTS LIST 1/1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-JU1-031-010		WINDOW,DSPLY 3<Z>
1	87-JU1-032-010		WINDOW,DSPLY 6<AE>
2	87-JU1-030-010		DOOR,CASS 3
3	84-JP9-202-010		SPR-T,DOOR
4	87-JU1-006-110		KEY,POWER
5	82-NE6-067-010		BADGE,AIWA 30N
6	87-JU1-025-010		CABI,FR Z<Z>
6	87-JU1-026-010		CABI,FR AE<AE>
7	87-JU1-002-010		KEY,EJECT<Z>
7	87-JU2-002-010		KEY,EJECT<AE>
8	87-JU1-007-010		BTN,PB
9	87-JU1-008-010		KEY,THTR<Z>
10	87-JU1-005-010		KEY,CONT
11	87-JU1-003-010		KEY,PLAY
12	87-JU1-004-010		KEY,STOP
13	87-JU1-011-110		KNOB,RTRY JOG
14	87-JU1-009-010		KNOB,RTRY SHUTTLE
15	87-JU1-010-110		LENS,LED
16	84-JP9-021-010		PLATE,FOOT HAIR
17	87-JU1-040-010		CABI,STEEL
18	87-JU1-016-010		PANEL,JACK
19	86-JU1-006-210		PANEL,RF
20	81-JUK-045-010		FELT,FOOT 8-8
A	87-067-660-010		BVT2+3-8 W/0 SLOT BLK
B	87-078-180-010		BVT2+3.5-12 SWCH/ZN BLK
C	87-067-579-010		BVT2+3-8 W/0 SLOT
D	87-067-752-010		BVTT+4-10 SWCH/ZN
E	87-067-761-010		BVT2+3-10 BLK
F	87-067-703-010		BVT2+3-10 W/0 SLOT
G	87-067-688-010		BVTT+3-6
H	87-B10-089-410		VT2+3-12 W/O GOLD

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

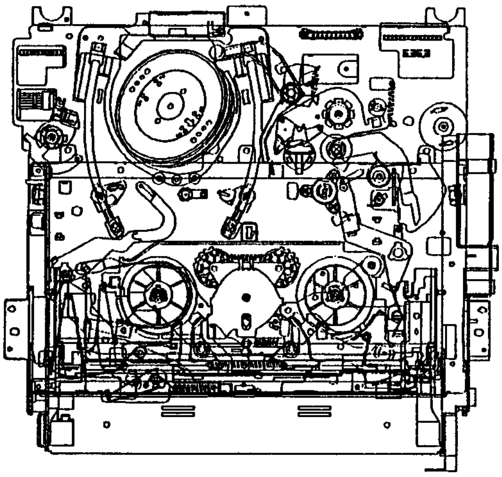
MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

aiwa

aiwa SERVICE

TN-6500



VIDEO MECHANISM

• TYPE: English.Japanese

SERVICE MANUAL

BASIC NAME	DERIVATION				
	No.	NAME			
TN-6500	A	109	110		
	B	107	108		
	C	206			
	D	208			

For diffrent version of mechanism that may be introduced since the issue of this manual, only the new or modified points be discussed.

S/M Code No. 09-95B-115-90T

VCR TEST TAPE INTERCHANGEABILITY TABLE

新しいタイプのテストテープは、CH-1 (NTSC用) とCH-2 (PAL用) の2種類があります。それぞれのテープには、(1) ～ (4) で区別する4種類の信号が、次の順番と時間で記録されています。
There are two types of the new allgnment tape CH-1B (for NTSC) and CH-2 (for PAL) . On each tape four signals (1) - (4) are recorded for the times and in the order shown below.

(1) : 8min. → (2) : 2min. → (3) : 5min. → (4) : 5min.

TTV-MP1 (M-PAL用) ,TTV-MS1 (MESECAM用) ,TTV-S1 (SECAM用) については現行通りです。
The TTV-MP1 (for M-PAL) ,TTV-MS1 (for MESECAM) and TTV-S1 (for SECAM) allgnment tapes have the same contents as the previous tapes.

方式 Method	現行タイプ Now in use TYPE		新タイプ New Type		主な用途 Application
	テープ名 Model	記録内容 ※1 Contents ※1	テープ名 Model	記録内容 ※1 Contents ※1	
NTSC	TTV-N1	NTSC,Color, 1kHz,SP	CH-1B(2)	NTSC,Stairsteps, 1kHz,SP	PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 PB-Y Level/General electrical ADJ.Head ACE Height/Tilt ADJ.
	TTV-N1E	NTSC,Color, 1kHz,EP	CH-1B(4) ※2	NTSC,Color,1kHz, EP	ｽｲｯﾁﾝｸﾞ位置調整。 Switching position ADJ.
	TTV-N2	NTSC,Stairsteps, 7kHz,SP	CH-1B(1)	NTSC,Stairsteps, 7kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。ｽｰﾊﾟｰｸﾘｱｰﾋﾟｸﾁｬｰのﾚﾍﾞﾙ調整。 Head ACE Azimuth ADJ.
	TTV-N12 (SCV-1998)	NTSC,Color, 1kHz,SP	CH-1B(4)	NTSC,Color,1kHz, EP	FMｴﾝﾍﾞﾛｰﾌﾟ調整。Xﾊﾞﾘｭｰ(位相)調整。 FM Envelope ADJ. X-Value ADJ.
	TTV-N7A	NTSC,Stairsteps, 1kHz,SP,HiFi400Hz	CH-1B(3)	NTSC,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
PAL	TTV-P1	PAL,Color, 1kHz,SP	CH-2(2) ※3	PAL,Stairsteps, 1kHz,SP	ｽｲｯﾁﾝｸﾞ位置調整。(SP専用ﾓﾃﾞﾙ)PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 Switching position ADJ. PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-P1L	PAL,Color, 1kHz,LP	CH-2(4)	PAL,Color,1kHz, LP	ｽｲｯﾁﾝｸﾞ位置調整。(LP対応ﾓﾃﾞﾙ)FMｴﾝﾍﾞﾛｰﾌﾟ調整。(LP対応ﾓﾃﾞﾙ) Xﾊﾞﾘｭｰ(位相)調整。(LP対応ﾓﾃﾞﾙ) Switching position.(LP Model)FM Envelope ADJ. (LP Model)X-Value ADJ.(LP Model)
	TTV-P2	PAL,Stairsteps, 6kHz,SP	CH-2(1)	PAL,Stairsteps, 6kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。FMｴﾝﾍﾞﾛｰﾌﾟ調整。(SP専用ﾓﾃﾞﾙ) Xﾊﾞﾘｭｰ(位相)調整。(SP専用ﾓﾃﾞﾙ) Head ACE Azimuth ADJ. FM Envelope ADJ.(SP Model) X-Value ADJ.(SP Model)
	TTV-P7	PAL,Stairsteps, 1kHz,SP,HiFi 1kHz	CH-2(3)	PAL,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
	TTV-P16	PAL,Color, 400Hz,SP,HiFi 1kHz	変更なし No Changed.		FMﾌｨﾙﾀｰ調整 FM Filter ADJ.

※ 1. ｶﾗｰ方式→映像信号→ﾉｰﾏﾙ音声→ﾃｰﾌﾟｽﾋﾟｰﾄﾞ→HiFi音声 の順で記載されています。
※ 1. Described in the order of color format. video signal. linear audio. tape speed and Hi-Fi audio.
※ 2. SP専用ﾓﾃﾞﾙの場合は、CH-1Bの (1) ～ (3) を使用して下さい。
※ 2.Use CH-1B (1) - (3) with models used exclusively in the SP mode.
※ 3. 色信号の観測が必要な場合はCH-2の (3) または (4) を使用して下さい。
※ 3.Use CH-2 (3) and (4) when it is necessary to observe the chroma signal.

STANDARD MAINTENANCE

1. SERVICE SCHEDULE

○：チェック　●：交換

デッキ			定期サービス表			
BLOCK NAME	Ref. No.	部品名	1000h	2000h	3000h	4000h
	110	TENSION ARM ASS' Y		●		●
	80, 81	T.S REEL ASS' Y			●	
	120	SUB PLATE ASS' Y		●		●
	142	LOADING MOTOR ASS' Y			●	
	100	CAPSTAN MOTOR		●		●
	90	PINCH ROLLER ARM ASS' Y		●		●
	123	RF CLUTCH ASS' Y		●		●
	61	ACE HEAD HVMZA1220			●	
	66	FE HEAD BASE ASS' Y			●	
	5	DRUM EARTH ASS' Y			●	
	1	CYLINDAR ASS' Y	○	●	○	●

注意：

- テープ走行系のすべての部品を清掃し、清掃後はデッキ調整すべてを行なうこと。
  ビデオヘッド/ピンチローラ/ACEヘッド/フルイレーズヘッド

2. CLEANING

1. ビデオヘッドの清掃（Fig-1 参照）

1) スチールキャビネットをはずす。
2) 素手でアッパードラムやロワードラムに触れぬ様手袋（薄いもの）をする。
3) ヘッドクリーニング用クロス又はセーム（鹿）皮にアルコールを2、3滴つけ、ヘッドチップに軽くあててアッパードラムを反時計方向に回す。

注意

- ビデオヘッドは非常に硬い物質でできていますが、非常に薄いため、縦方向に清掃するのは避けて下さい。
- 清掃した箇所が乾くまでセットを作動しないで下さい。
- 汚れたヘッドクリーニング用クロス又はセーム（鹿）皮は再使用しないで下さい。

2. ACヘッドのクリーニング（Fig-2 参照）

1) スチールキャビネットを外す。
2) ヘッドクリーニング用クロス又はセーム（鹿）皮にアルコールを2、3滴つけて、アッパードラムや他の走行系部品を痛めない様注意しながら、クリーニングする。

注意

- ACヘッドを縦方向にクリーニングしないで下さい。
- クリーニングした箇所が乾くまでセットを作動しないで下さい。

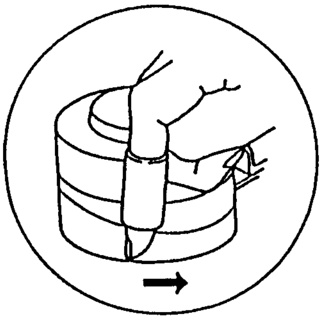


Fig-1

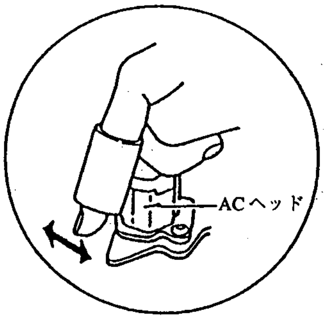


Fig-2

STANDARD MAINTENANCE

1. SERVICE SCHEDULE

○ : Check ● : Replacement

Deck			Periodic Maintenance Table			
BLOCK NAME	Ref. No.	PARTS NAME	1000h	2000h	3000h	4000h
	110	TENSION ARM ASS' Y		●		●
	80, 81	T.S REEL ASS' Y			●	
	120	SUB PLATE ASS' Y		●		●
	142	LOADING MOTOR ASS' Y			●	
	100	CAPSTAN MOTOR		●		●
	90	PINCH ROLLER ARM ASS' Y		●		●
	123	RF CLUTCH ASS' Y		●		●
	61	ACE HEAD HVMZA1220			●	
	66	FE HEAD BASE ASS' Y			●	
	5	DRUM EARTH ASS' Y			●	
	1	CYLINDAR ASS' Y	○	●	○	●

Note:

- Clean all the parts of the tape running mechanism. After cleaning the parts, perform all items of the deck adjustment.
  Video Head, Pinch Roller, ACE Head and Full Erase Head

2. CLEANING

1. Video Head Cleaning (Refer to Fig-1.)

1) Remove the steel cabinet.
2) Do not touch the upper drum and lower drum with bare hand. Put on gloves (thin).
3) Apply two or three drops of alcohol to the head cleaning cloth or chamois. Touch the head cleaning cloth gently on the head tip and turn the upper drum counter-clockwise for cleaning.

Caution

- Even though the video head is made of very hard material, it is very thin. Never move the cleaning cloth vertically.
- Do not operate the machine before the cleaned areas are dried up.
- Do not re-use the stained head cleaning cloth or chamois.

2. ACE Head Cleaning (Refer to Fig-2.)

1) Remove the steel cabinet.
2) Apply two or three drops of alcohol to the head cleaning cloth or chamois. Clean the ACE head while taking care not to give damage to the upper drum and other tape path mechanical parts.

Caution

- Do not move the cleaning cloth vertically on the ACE head.
- Do not operate the machine before the cleaned areas are dried up.

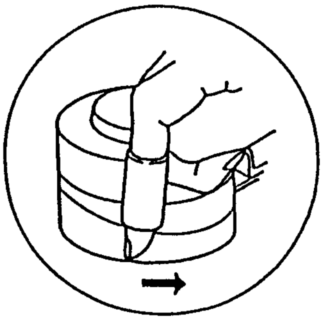


Fig-1

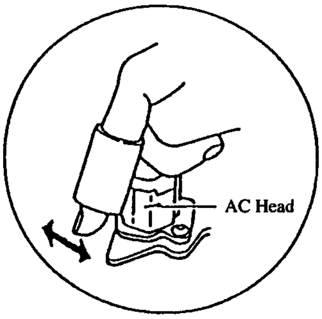


Fig-2

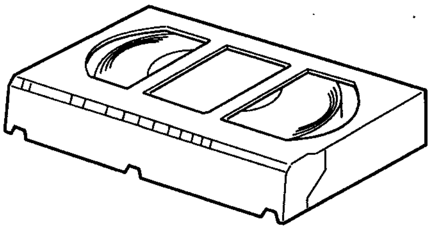
SERVICE JIG AND TOOLS

1. ALIGNMENT TAPES FOR ADJUSTMENT

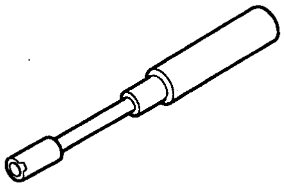
DERIVATION No.		A	B	C	D
Mechanism Adjustment		PAL SP/LP 2/4 Head	PAL SP 2Head	NTSC SP/EP 2/4 Head	NTSC SP/EP 2 Head (HIFI)
FM Envelope		CH-2(4) (TTV-P1L)	CH-2(1) (TTV-P2)	CH-1B(4) (TTV-N12)	CH-B(1) (TTV-N2)
AC Head	Tilt	Blank Tape			
	Height	CH-2(2) (TTV-P1)	CH-2(2) (TTV-P1)	CH-1B(2) (TTV-N1)	CH-1B(2) (TTV-N1)
	Azimuth	CH-2(1) (TTV-P2)	CH-2(1) (TTV-P2)	CH-1B(1) (TTV-N2)	CH-1B(1) (TTV-N2)
X Value		CH-2(4) (TTV-P1L)	CH-2(1) (TTV-P2)	CH-1B(4) (TTV-N12)	CH-1B(2) (TTV-N1)
Back Tension		SRK-VHT-103			

Ref No.	Name	Use
J-1	Torque meter (SRK-VHT-063)	Back tension measurement
J-2	Adjustment Screwdriver (Small) SV-TG0-030-000	Tape path
J-3	Adjustment Screwdriver (Large) SV-TG0-020-000	Tape path
J-4	Box Type Screwdriver M3	Tape path
J-5	Mirror	Tape path

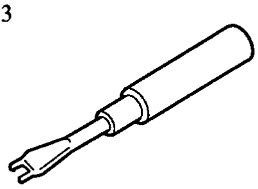
J-1



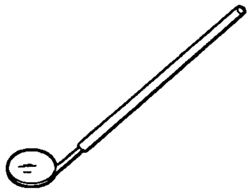
J-4



J-2, J-3



J-5

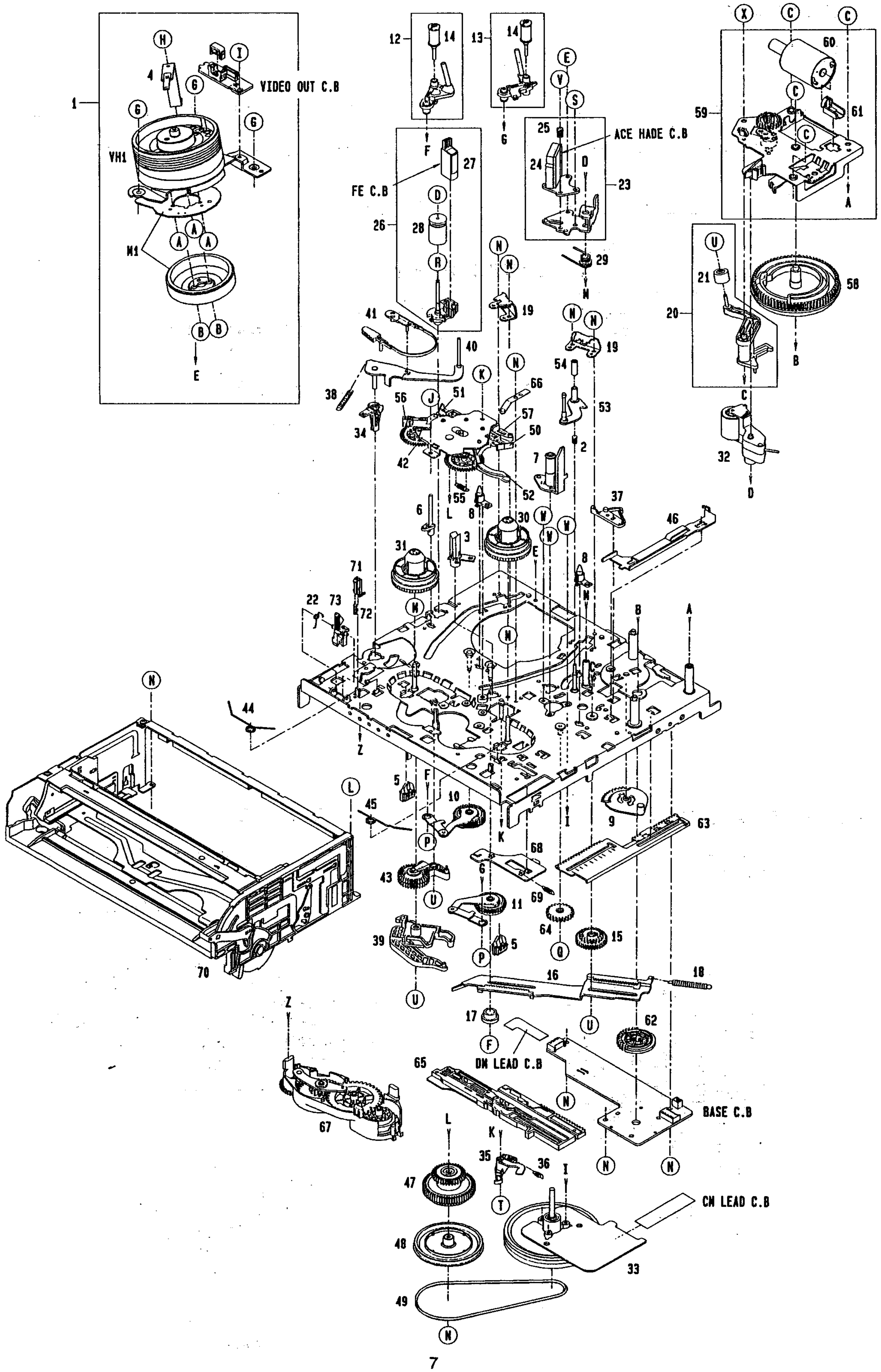


DISASSEMBLY PARTS LIST

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO.	PART NO.	カンリ NO.	DESCRIPTION
1	S8-067-017-060	--	CYLINDAR ASS'Y<208>
1	S8-066-016-030	--	CYLINDAR ASS'Y<109>
1	S8-066-016-010	--	CYLINDAR ASS'Y<107,108>
1	S8-066-016-080	--	CYLINDAR ASS'Y<110>
1	S8-065-017-010	--	CYLINDAR ASS'Y<206>
2	S8-065-170-050	--	RG ARM SPRING<110,208>
3	S8-065-130-010	--	OPTICAL LEADER
4	S8-065-015-010	--	DRUM EARTH ASS'Y
5	S8-065-133-030	--	RS LEADER
6	S8-065-023-010	--	F POST METAL ASS'Y
7	S8-065-023-020	--	TAPE GUIDE ASS'Y
8	S8-063-020-230	0E	CASSETE GUIDE BOSS
9	S8-065-035-020	--	LOADING LEVER KASIME
10	S8-063-033-050	2A	LOADING PLATE L ASS'Y
11	S8-065-033-050	--	LOADING PLATE R ASS'Y
12	S8-065-033-030	--	L BLOCK L ASS'Y
13	S8-065-033-040	--	L BLOCK R ASS'Y
14	S8-063-030-090	2A	ROLLER POST
15	S8-065-030-040	--	LOADING GEAR
16	S8-065-030-050	--	L GEAR PLATE
17	S8-065-030-110	--	L GEAR PLATE COLLOR
18	S8-065-030-100	--	L GEAR PLATE SPRING
19	S8-065-030-010	--	LD CATCHER
20	S8-065-033-060	--	HEAD CLEANING ASS'Y
21	S8-063-030-290	--	CLEANING ROLLER ASS'Y
22	S8-065-130-050	--	REC LEVER SPRING<EXCEPT 107,206>
23	S8-065-043-030	--	AC HEAD BASE ASS'Y<107,206>
23	S8-065-043-020	--	ACE HEAD BASE ASS'Y<EXCEPT 107,206>
24	S6-204-030-240	--	AC HEAD HVMZB1030(ACH1)<107,206>
24	S6-204-150-200	--	ACE HEAD HVMZA1220(ACEH1)<EXCEPT 107,206>
25	S8-000-060-040	0E	AZIMUTH SPRING
26	S8-065-043-010	--	FE HEAD BASE ASS'Y
27	S6-209-150-040	--	VTR1X2ERS11107<EXCEPT 107,206>
28	S8-063-043-060	--	IMPEDANCE ROLLER ASS'Y
29	S8-065-040-020	--	HEAD BASE SPRING
30	S8-065-053-010	--	T REEL ASS'Y
31	S8-065-053-020	--	S REEL ASS'Y
32	S8-065-063-010	--	PINCH ROLLER ARM ASS'Y
33	S6-003-030-600	--	CAPSTAN MOTOR F2QTB10 (M2)
34	S8-063-080-040	1A	BT ARM METAL
35	S8-065-073-010	--	C BRAKE ASS'Y
36	S8-065-070-020	--	C BRAKE SPRING
37	S8-065-170-040	--	RG LEVER
38	S8-065-080-020	--	BT SPRING
39	S8-065-080-060	--	BT LEVER
40	S8-065-083-020	--	TENSION ARM SEMI ASS'Y
41	S8-065-083-030	--	BT BAND ASS'Y
42	S8-065-093-030	--	SUB PLATE ASS'Y
43	S8-065-093-040	--	RF CLUTCH ASS'Y
44	S8-065-100-070	--	TS BRAKE SPRING
45	S8-065-100-090	--	SS BRAKE SPRING
46	S8-065-100-100	--	TS BRAKE LEVER
47	S8-065-093-020	--	CLUTCH ASS'Y
48	S8-065-093-010	--	CLUTCH PULLY ASS'Y
49	S8-065-090-200	--	DRIVE BELT
50	S8-065-103-010	--	T MAIN BRAKE ASS'Y
51	S8-065-103-020	--	S MAIN BRAKE ASS'Y
52	S8-065-103-030	--	T SOFT BRAKE ASS'Y
53	S8-065-175-010	--	RG ARM KASIME
54	S8-065-170-030	--	RG ADJUST NUT
55	S8-065-100-050	--	MAIN BRAKE SPRING
56	S8-065-100-080	--	S SOFT BRAKE ARM
57	S8-065-110-140	--	REVERSE LEVER PIN
58	S8-065-113-020	--	CAM GEAR ASS'Y
59	S8-065-113-010	--	CAM PLATE ASS'Y
60	S8-065-113-030	--	LOADING MOTOR ASS'Y(M3)
61	S8-065-110-110	--	MOTOR HOLDER
62	S8-065-110-040	--	M GEAR
63	S8-065-113-050	--	M GEAR PLATE ASS'Y
64	S8-065-110-070	--	M RELAY GEAR
65	S8-065-110-080	--	M SLIDE PLATE
66	S8-065-110-170	--	R LEVER SPRING PLATE
67	S8-065-153-010	--	FD GEAR CASE ASS'Y
68	S8-065-150-090	--	FD SLIDE PLATE
69	S8-065-150-100	--	FD SLIDE PLATE SP
70	S8-065-163-010	--	FRONT LOADING ASS'Y
71	S8-065-130-060	--	IN SWITCH SLIDER
72	S8-065-130-070	--	IN SW SLIDER SPRING
73	S8-065-130-040	--	REC SWITCH LEVER<EXCEPT 107,206>
A	-- -- -- -- --	--	TAMS SCREW 2.6X15
B	-- -- -- -- --	--	ROTOR SCREW B ASS'Y
C	S9-P02-260-510	0E	TAMS SCREW 2.6X5
D	S9-W02-300-500	0E	POLTSIDER WASHER(C) 1.6X3.8X0
E	S9-P09-300-610	0E	SCREW (SHARP-POINTED) 3X6
F	S9-W02-300-600	0E	POLYSLIDER WASHER(C) 2.1X5X0.
G	S9-P04-300-510	--	TAPPING SCREW 3.0X5
H	S9-P04-260-410	0E	TAPPING SCREW 2.6X4
I	S9-P12-260-640	0E	TAMS SCREW (TAPPING) S 2.6X6
J	S9-C04-265-030	--	CAMERA SCREW(TAPPING)S 2.6X5
K	-- -- -- -- --	--	TAPPING SCREW 2.0X4
L	S9-B03-260-510	0E	TAPPING SCREW(BIND) 2.6X5
M	S9-W03-301-100	0E	NYLON WASHER 2.5X5X0.3
N	S9-P04-260-510	0E	TAPPING SCREW 2.6X5
P	S9-W06-501-100	0E	HL WASHER(CUT)4.5X7X0.5
Q	S9-W06-301-000	--	HLW(C) 2.6X6X0.3
R	S9-W06-300-400	0E	HL WASHER(CUT) 1.55X4.5X0.3
S	S9-P01-260-720	0E	SCREW 2.6X7
T	S9-W02-501-000	0E	POLYSLIDER WASHER(C)2.1X5X0.5
U	S9-W02-501-100	0E	POLYSLIDER WASHER(C)2.6X6X0.5
V	S8-000-060-260	0E	AZIMATH SPRING SCREW
W	S9-P07-260-610	--	TAPPING SCREW P 2.6 X 6
X	S9-F22-260-810	--	ADJUST SCREW 2.6X8

EXPLODED VIEW



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BASE C.B
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CN LEAD C.B
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HOW TO ASSEMBLE THE PARTS

1. L GEAR PLATE

L GEAR PLATE (16) の取付けの際は以下1) ～4) に注意すること。

1) L BLOCK R ASSY (13) とL BLOCK L ASSY (12) がアンスレッディング状態であること。
2) LOADING GEAR (15) とL GEAR PLATE (16) のマークを合わせる。
3) LOADING PLATE R ASSY (11) とL GEAR PLATE (16) のマークを合わせる。
4) LOADING LEVER KASIME (9) が矢印方向に止まるまで回転していること。

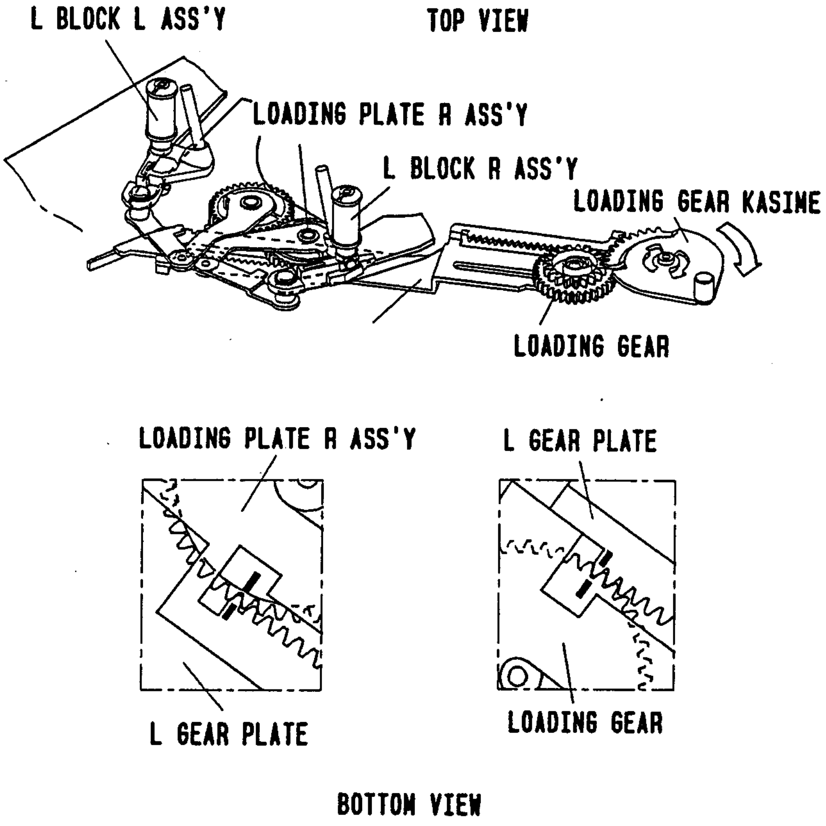

L BLOCK L ASS'Y
TOP VIEW
LOADING PLATE R ASS'Y
L BLOCK R ASS'Y
LOADING GEAR KASIME
LOADING GEAR
LOADING PLATE R ASS'Y
L GEAR PLATE
L GEAR PLATE
LOADING GEAR
BOTTOM VIEW

Fig-1

2. ACE HEAD BASE ASSY

1) ビスⓋを完全に締めつけ、※部が平行になるようにビスⓈを締めながら調整する。

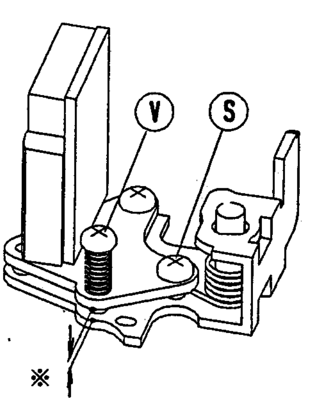


Fig-2

3. RF CLUTCH ASSY

1) M SLIDE PLATE (65) の構にRF CLUTCH ASSY (43) のシャフトを入れる。

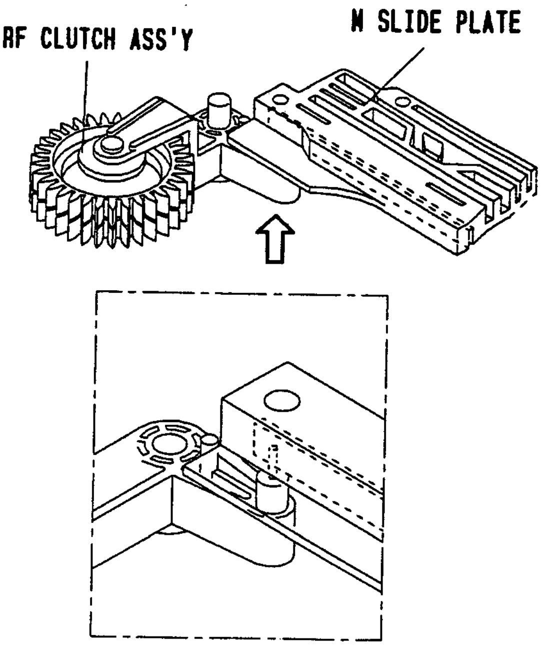

RF CLUTCH ASS'Y
M SLIDE PLATE

Fig-3

4. FD SLIDE PLATE SP

1) FD GEAR 1 と FD GEAR 2 のマークを合わせる。

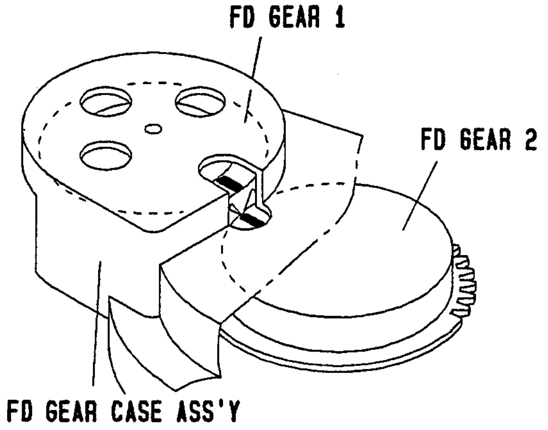

FD GEAR 1
FD GEAR 2
FD GEAR CASE ASS'Y

Fig-4

2) FD SLIDE PLATE (68) を取り付ける時、突起部分が Fig-5 ①、②の様に溝に入ること。

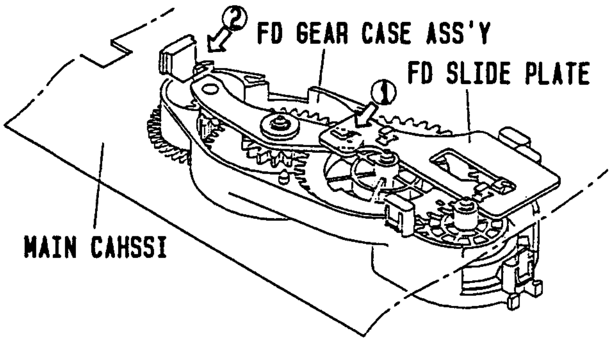

②
FD GEAR CASE ASS'Y
①
FD SLIDE PLATE
MAIN CAHSSI

Fig-5

5. M SLIDE PLATE/M RELAY GEAR/M GEAR PLATE ASSY/M GEAR

1) M GEAR PLATE ASSY (63) と M GEAR (62) のマークを合わせて取り付ける。
2) M RELAY GEAR (64) は、M SLIDE PLATE (65) のマークと合わせて取り付ける。

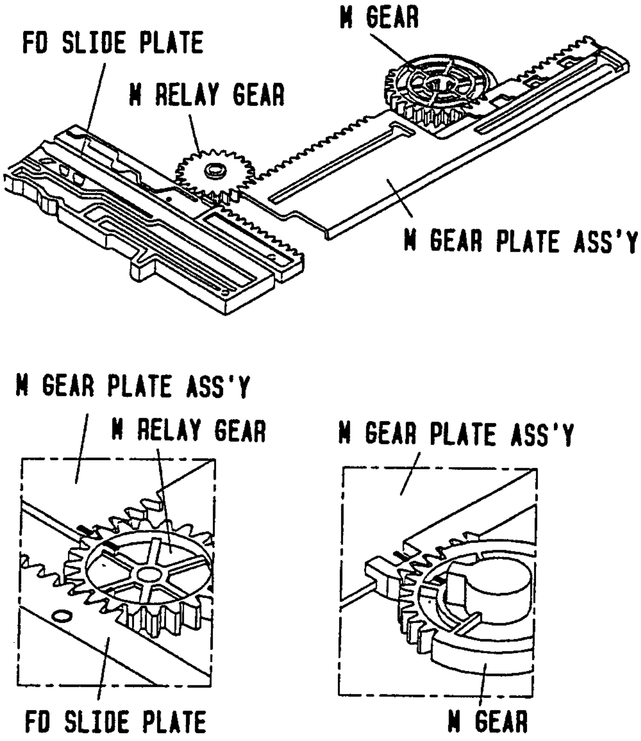

FD SLIDE PLATE
M GEAR
M RELAY GEAR
M GEAR PLATE ASS'Y
M GEAR PLATE ASS'Y
M RELAY GEAR
M GEAR PLATE ASS'Y
FD SLIDE PLATE
M GEAR

Fig-6

6. SUB PLATE ASSY

1) S SOFT BRAKE ARM (56) のシャフトを MAIN CHASSIS の①部に入れる。
2) S MAIN BRAKE ASSY (51) のシャフトを M SLIDE PLATE (65) のカム溝2部に入れる。
3) T SOFT BRAKE ASSY のシャフトを MAIN CHASSIS の④部に入れる。
4) T MAIN BRAKE ASSY (50) のシャフトを MAIN CHASSIS の③部に入れる。
5) REVERSE LEVER PIN (57) のシャフトを M SLIDE PLATE のカム構⑤部に入れる。

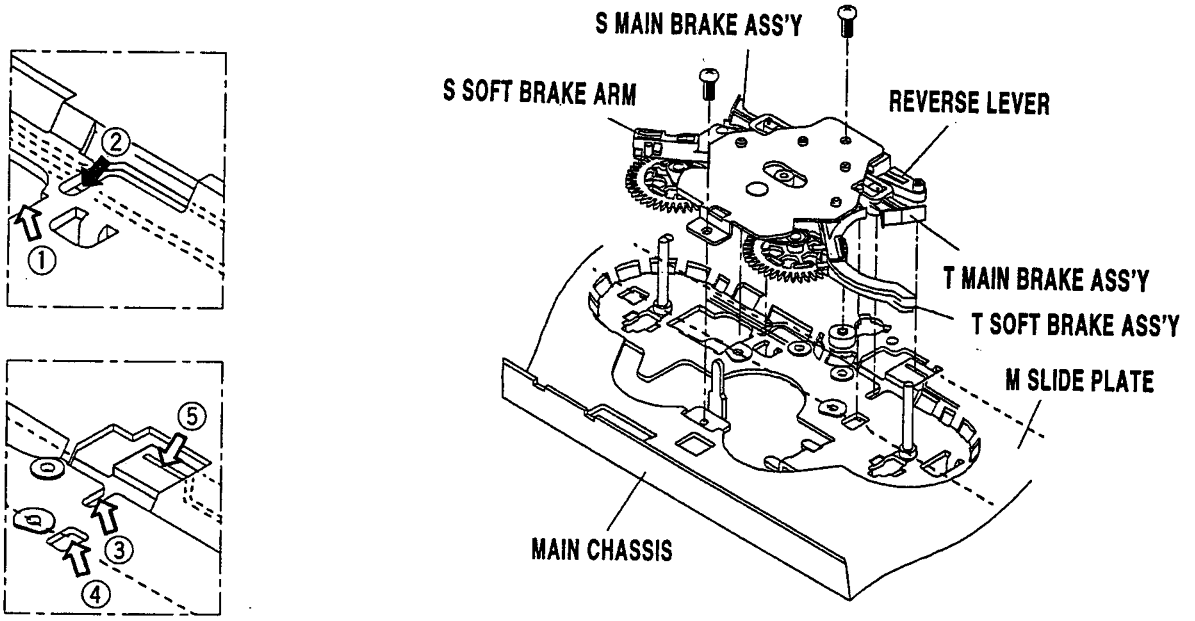

②
①
⑤
③
④
S MAIN BRAKE ASS'Y
S SOFT BRAKE ARM
REVERSE LEVER
T MAIN BRAKE ASS'Y
T SOFT BRAKE ASS'Y
M SLIDE PLATE
MAIN CHASSIS

Fig-7

7. CAM GEAR ASSY と LOADING LEVER KASIME

1) メカがアンスレッディング状態であることを確認する。
2) CAM GEAR ASSY (58) の裏側のカム溝に LOADING LEVER KASIME (9) のポストに入る様に取り付ける。

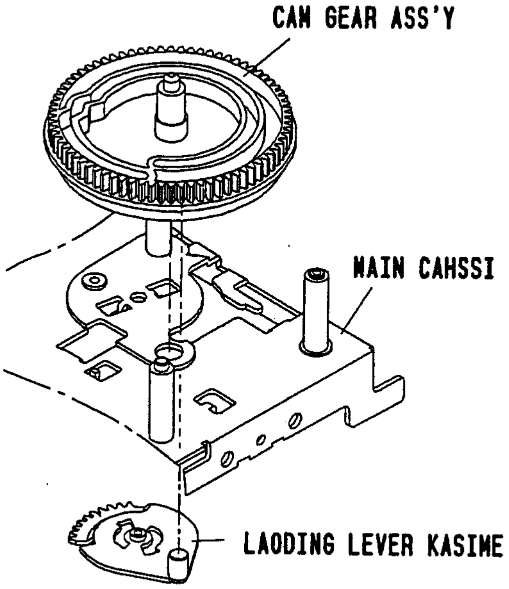

CAM GEAR ASS'Y
MAIN CAHSSI
LAODING LEVER KASIME

Fig-8

8. HEAD CLEANING ASSY

1) HEAD CLEANING ASSY (20) は、レバーの位置が矢印部分に組み込まれること。(誤った位置にレバーが組み込まれると正常に動作しません。)

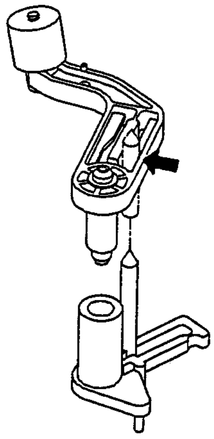


Fig-9

9. FRONT LOADING ASSY

1) CASSETTE HOLDER ASSY は、カセット IN 状態で FRAME R BLOCK、FRAME L BLOCK に取り付ける。

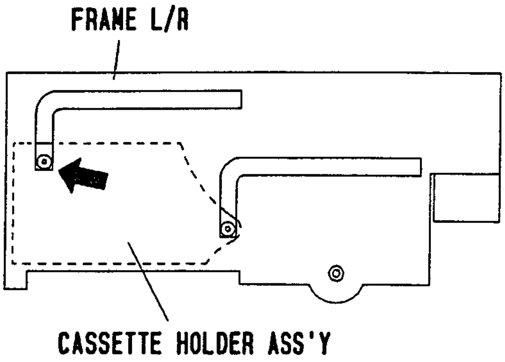

FRAME L/R
CASSETTE HOLDER ASS'Y

Fig-10

2) CASSETTE HOLDER ASSY を FRAME L、FRAME R に取り付ける。
3) シャフトがレバーの右側にくる様に取り付ける。

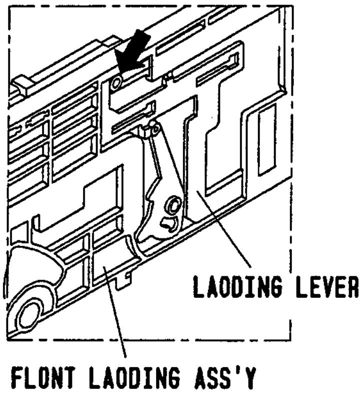

LAODING LEVER
FLONT LAODING ASS'Y

Fig-11

4) FD SLIDE PLATE SP (69) を参考にギアの位相がずれない様に FRONT LOADING ASSY (70) を取り付ける。

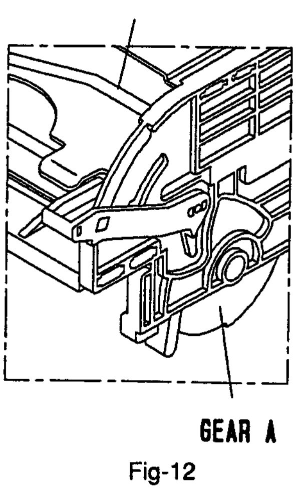

FLONT LAODING ASS'Y
GEAR A

Fig-12

〈注意〉

すべての組み立てが終了時、手動にて CASSETTE HOLDER ASSY をローディング、アンローディングさせて下さい。その際、キャプスタンモータが連動して回転する事を確認して下さい。うまくいかない場合 "5. MSLIDE PLATE/MRELAY GEAR/ M GEAR PLATE ASSY/M GEAR" の位相合わせを再確認して下さい。

10. CAM PLATE ASSYの取り付け

CAM PLATE ASSY は PINCH ROLLER ASSY, CAM GEAR ASSY, HEAD CLEANING ASSY の軸をそれぞれⓒⓓⓔに組み込みます。そしてⓐ×2、ⓑ×2の4本のビスで止めます。その時以下の点に注意して下さい。(8. HEAD CLEANING ASSY を参照)

1) AC HEAD ASSY は①方向に押し下げながら、更に②方向に止まるまで回す。(CAM PLATE ASSY の取り付けが完了するまでこの状態を保持する。)
2) CAM GEAR ASSY を③方向に止まるまで回す。(CAM PLATE ASSY の取り付けが完了するまでこの状態を保持する。)
3) Ⓐで示す LEVER の溝に、Ⓑで示す PINCH ROLLER ASSY のスプリングが入ること。
4) LEVER の軸 (Ⓐ点の反対側) が、④で示すように、CAM GEAR ASSY の溝に入ること。
5) CAM PLATE ASSY の CAM がⓕで示すシャーシの穴に入ること。

以上1) ~5) の全てが満たされないと、CAM PLATE ASSY をうまく取り付けることはできません。

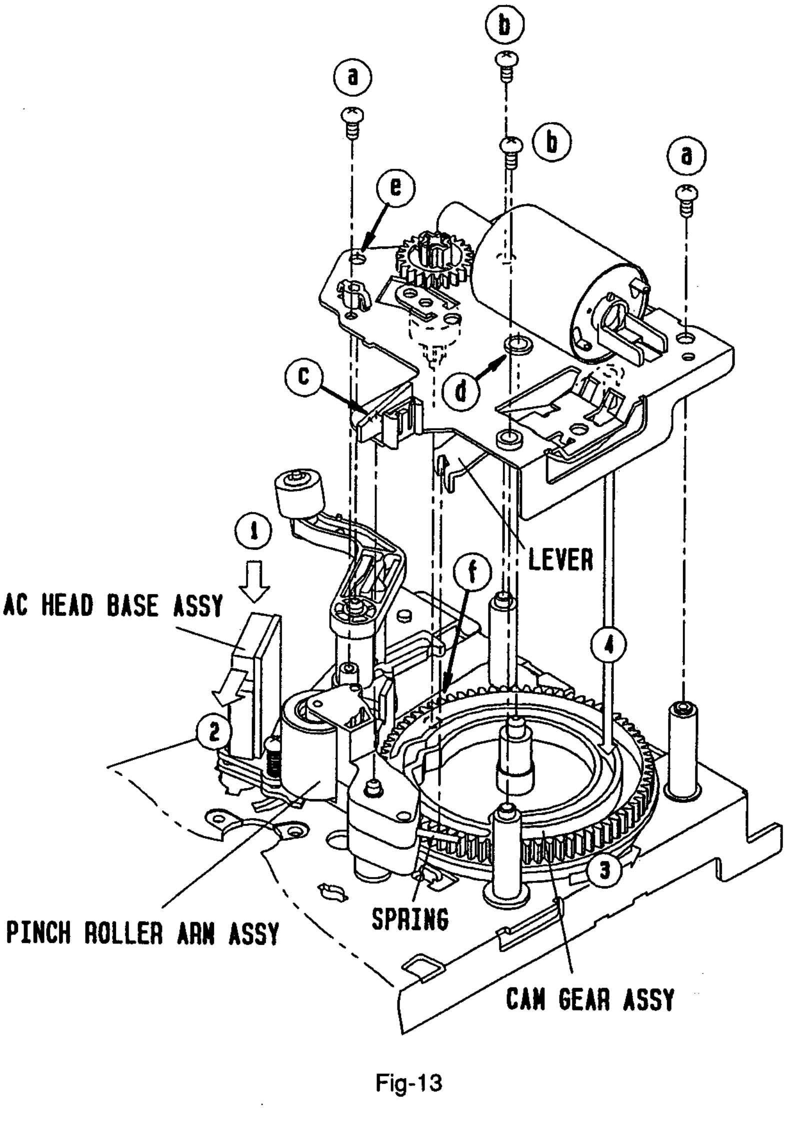

ⓑ
ⓐ
ⓑ
ⓐ
ⓔ
ⓒ
ⓓ
①
LEVER
ⓕ
AC HEAD BASE ASSY
④
②
PINCH ROLLER ARM ASSY
SPRING
③
CAM GEAR ASSY

Fig-13

HOW TO ASSEMBLE THE PARTS

1. L GEAR PLATE

Observe the following precautions when attaching the L GEAR PLATE (16).

1) Confirm that the BLOCK R. ASSY (13) and the BLOCK L. ASSY (12) are located in the unthreaded-end positions.
2) Align the marks of the LOADING GEAR (15) and the L GEAR PLATE (16).
3) Align the marks of the LOADING PLATE R ASSY (11) and the L GEAR PLATE (16).
4) Check that the LOADING LEVER KASIME (9) has been turned until it is stopped in the direction of the arrow.

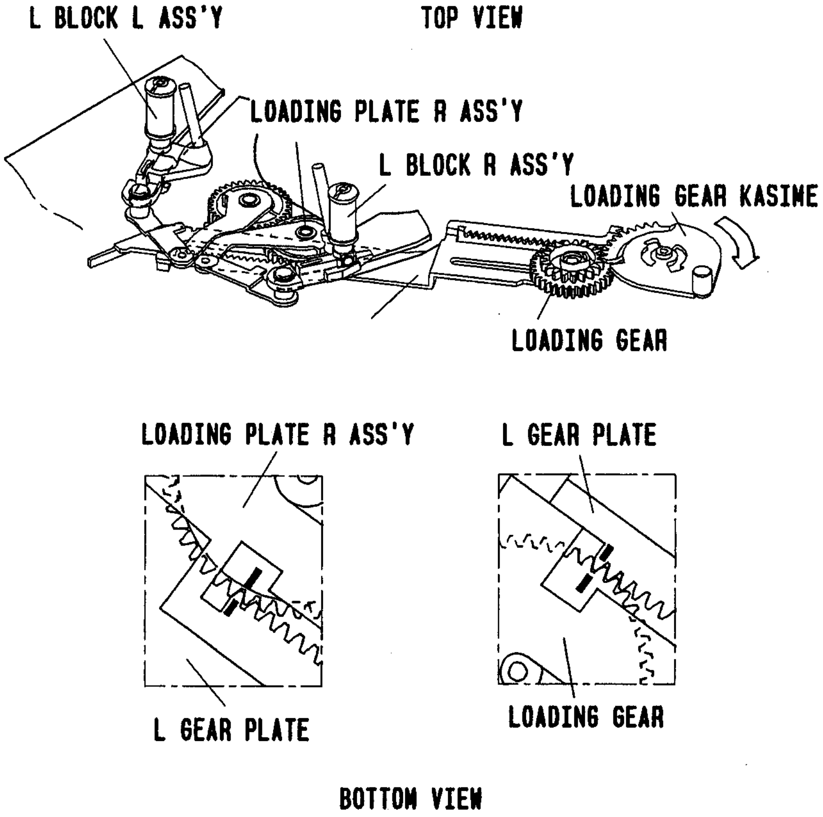

L BLOCK L ASS'Y
TOP VIEW
LOADING PLATE R ASS'Y
L BLOCK R ASS'Y
LOADING GEAR KASINE
LOADING GEAR
LOADING PLATE R ASS'Y
L GEAR PLATE
L GEAR PLATE
LOADING GEAR
BOTTOM VIEW

Fig-1

2. ACE HEAD BASE ASSY

1) Tighten the screw V completely then make adjustment until the asterisk * mark position becomes parallel, while tightening the screw S.

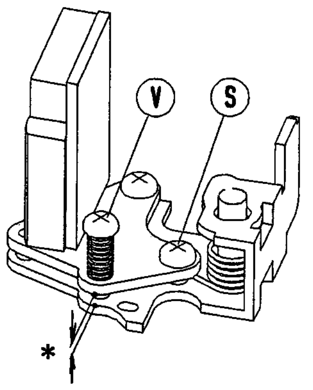


Fig-2

3. RF CLUTCH ASSY

1) Insert the shaft of the RF CLUTCH ASSY (43) next to the M SLIDE PLATE (65).

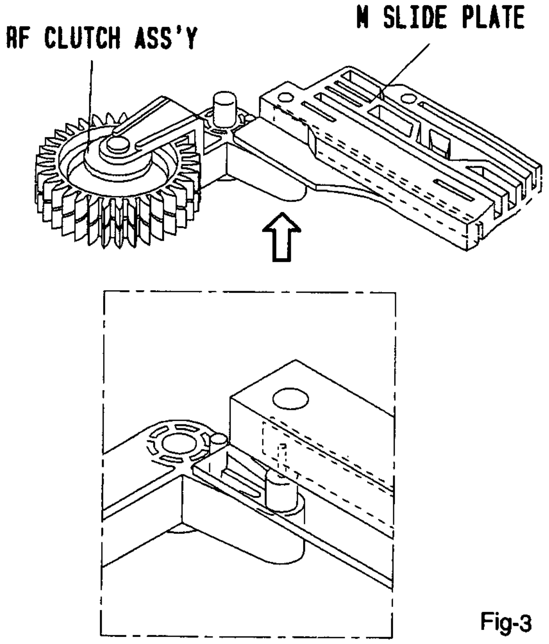

RF CLUTCH ASS'Y
M SLIDE PLATE

Fig-3

4. FL SLIDE PLATE SP

1) Align the marks of the FD GEAR 1 and the FD GEAR 2.

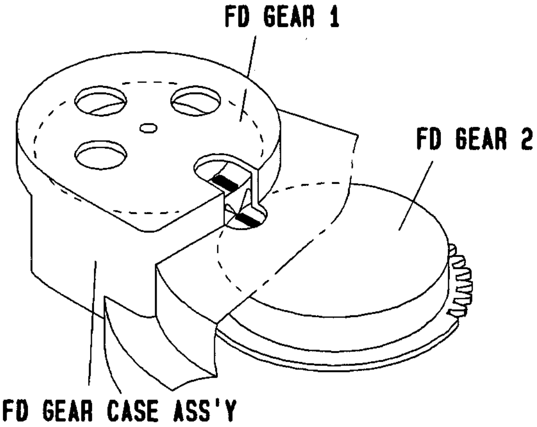

FD GEAR 1
FD GEAR 2
FD GEAR CASE ASS'Y

Fig-4

2) When attaching the FD SLIDE PLATE (68), insert the protrusion parts into the groove as shown in Fig. 5 (1) and (2).

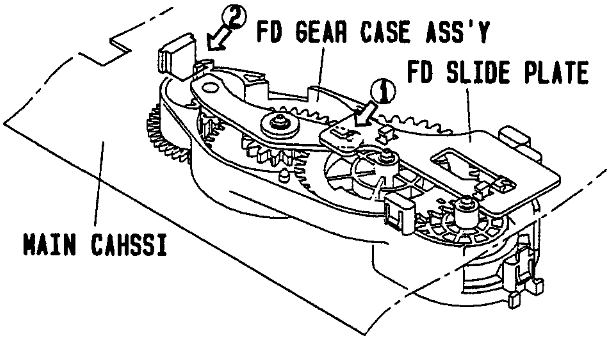

②
FD GEAR CASE ASS'Y
①
FD SLIDE PLATE
MAIN CAHSSI

Fig-5

5. M SLIDE PLATE/M RELAY GEAR/M GEAR PLATE ASSY/M GEAR

1) Align the marks of the M GEAR PLATE ASSY (63) and the M GEAR (62).
2) Attach the M RELAY GEAR (64) while aligning the marks of the M RELAY GEAR (64) and the M SLIDE PLATE (65).

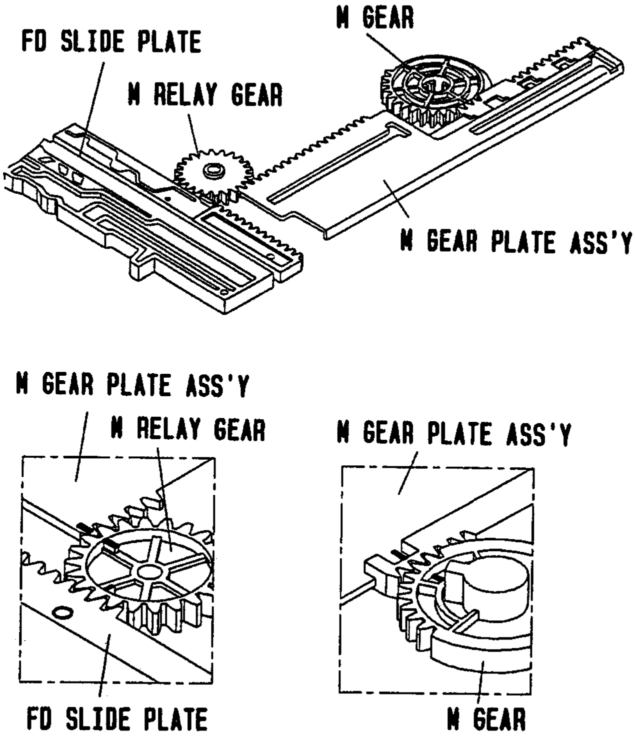

M GEAR
FD SLIDE PLATE
M RELAY GEAR
M GEAR PLATE ASS'Y
M GEAR PLATE ASS'Y
M RELAY GEAR
M GEAR PLATE ASS'Y
FD SLIDE PLATE
M GEAR

Fig-6

6. SUB PLATE ASSY

1) Insert the shaft of the S SOFT BRAKE ARM (56) into the (1) portion of the MAIN CHASSIS.
2) Insert the shaft of the S MAIN BRAKE ASSY (51) to the cam groove (2) portion of the M SLIDE PLATE (65).
3) Insert the shaft of the T SOFT BRAKE ASSY into the 4 portion of the MIN CHASSIS.
4) Insert the shaft of the T MAIN BRAKE ASSY (50) into the (3) portion of the MAIN CHASSIS.
5) Insert the shaft of the REVERSE LEVER PIN (57) into the cam groove (5) portion of the M SLIDE PLATE.

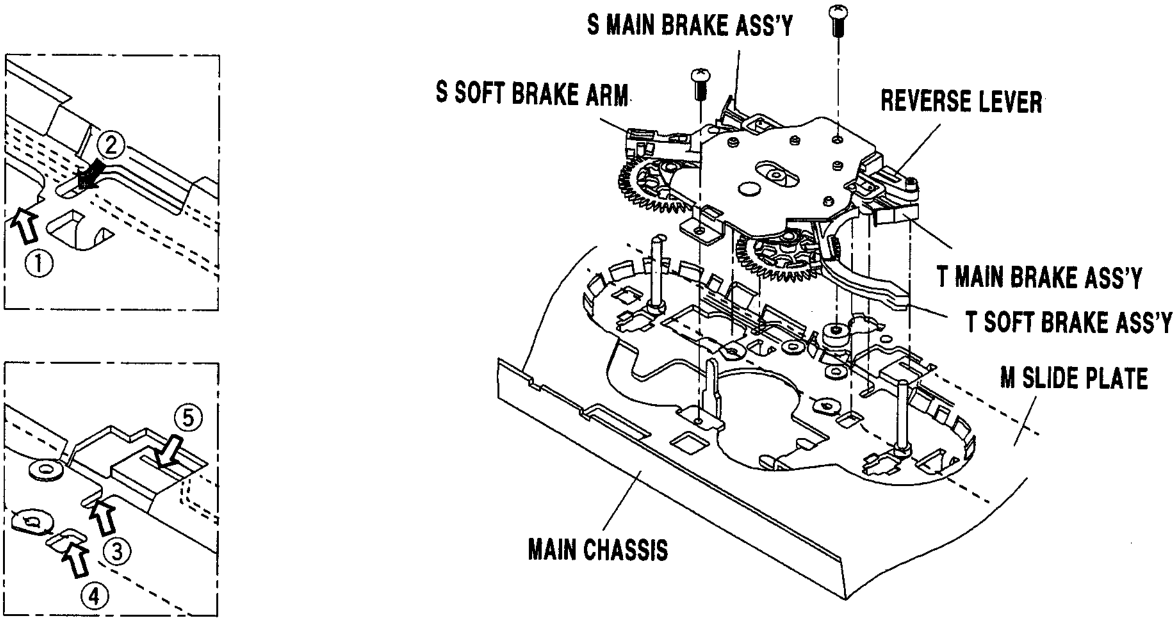

②
①
⑤
③
④
S MAIN BRAKE ASS'Y
S SOFT BRAKE ARM
REVERSE LEVER
T MAIN BRAKE ASS'Y
T SOFT BRAKE ASS'Y
M SLIDE PLATE
MAIN CHASSIS

Fig-7

7. CAM GEAR ASSY and LOADING LEVER KASIME

1) Confirm that the mechanism is in the unthreaded-end state.
2) Attach the CAM GEAR ASSY and LOADING LEVER KASIME so that the post of the LOADING LEVER KASIME (9) is inserted to the rear of the CAM GEAR ASSY (58).

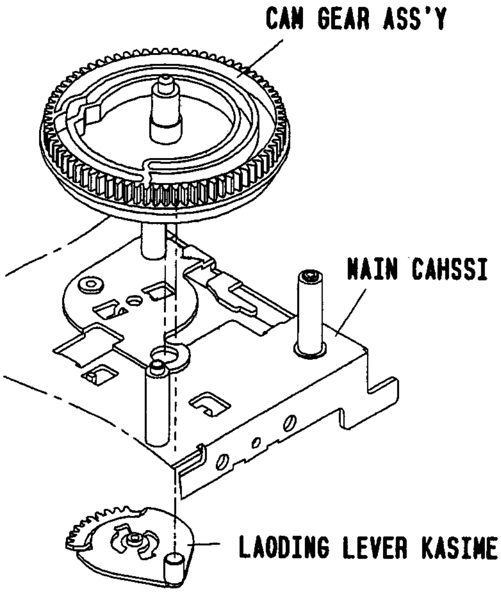

CAM GEAR ASS'Y
MAIN CAHSSI
LAODING LEVER KASIME

Fig-8

8. HEAD CLEANING ASSY

1) The HEAD CLEANING ASSY (20) must be attached so that the lever is positioned in the area marked by the arrow.
(If the lever is attached to the incorrect position, the machine will not work correctly.)

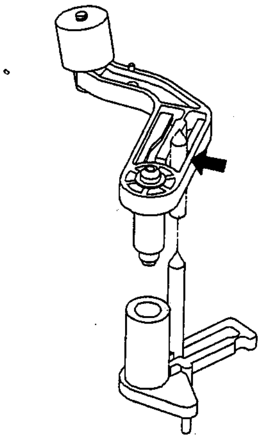


Fig-9

9. FRONT LOADING ASSY

1) Establish the "Cassette In" state of mechanism. Insert the CASSETTE HOLDER ASSY to the FRAME R BLOCK and to the FRAME L BLOCK with the "Cassette In" state of mechanism.

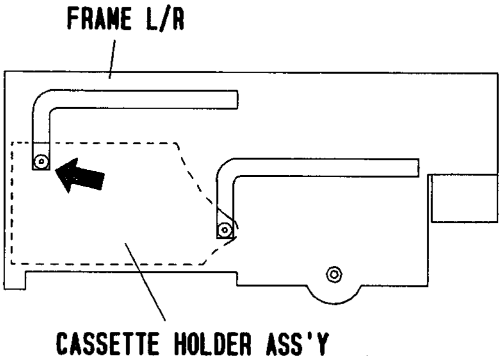


Fig-10

2) Attach the CASSETTE HOLDER ASSY to the FRAME L and the FRAME R.
3) Be careful that the shaft comes to the right of the lever when attaching the CASSETTE HOLDER ASSY.

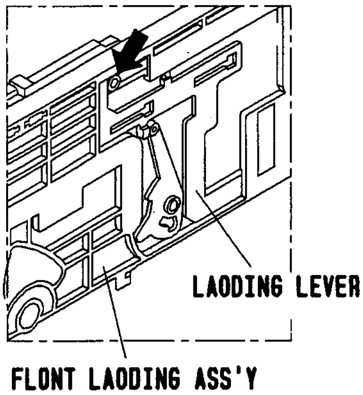


Fig-11

4) Attach the FRONT LOADING ASSY (70) while referring to the FD SLIDE PLATE SP (69) so that the phase of the gear must not be shifted.

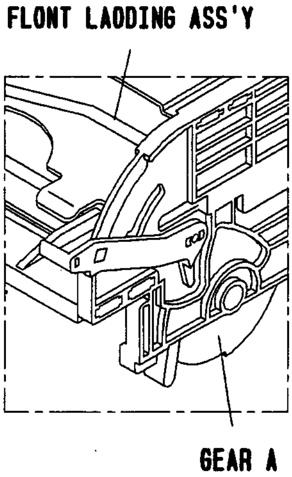


Fig-12

< Note >

When all parts are assembled, perform loading and unloading of the CASSETTE HOLDER ASSY manually by hand. Confirm that the capstan motor rotates as the loading and unloading are performed. If the capstan motor does not rotates, check the phase adjustment referring to section "5. M SLIDE PLATE/M RELAY GEAR/M GEAR PLATE ASSY/M GEAR"

10. Attaching the COM PLATE ASSY

Attach the CAM PLATE ASSY by inserting the respective shafts of the PINCH ROLLER ASSY, CAM GEAR ASSY and HEAD CLEANING ASSY into ⓒ, ⓓ and ⓔ respectively. Then fix it using the 2 screws ⓐ and 4 screws ⓑ. When attaching it, pay attention on the following point.
(Refer to 8. HEAD CLEANING ASSY.)

1) While pressing down the AC HEAD ASSY in the direction of ①, turn it in the direction ② until it stops. (Maintain this position until attachment of the CAM PLATE ASSY is completed.)
2) Turn the CAM GEAR ASSY in the direction of ③ until it stops. (Maintain this position until attachment of the CAM PLATE ASSY is completed.)
3) Spring of the PINCH ROLLER ASSY shown as Ⓑ must enters into the groove of the LEVER shown as Ⓐ.
4) Shaft (opposite side of point Ⓐ) of the LEVER must enter into the groove of the CAM GEAR ASSY as shown in ④.
5) The CAM of the CAM PLATE ASSY must enter into the hole of chassis as shown in ⓕ.

If all of the conditions as described above from step 1) to step 5) are not satisfied, the CAM PLATE ASSY cannot be attached correctly.

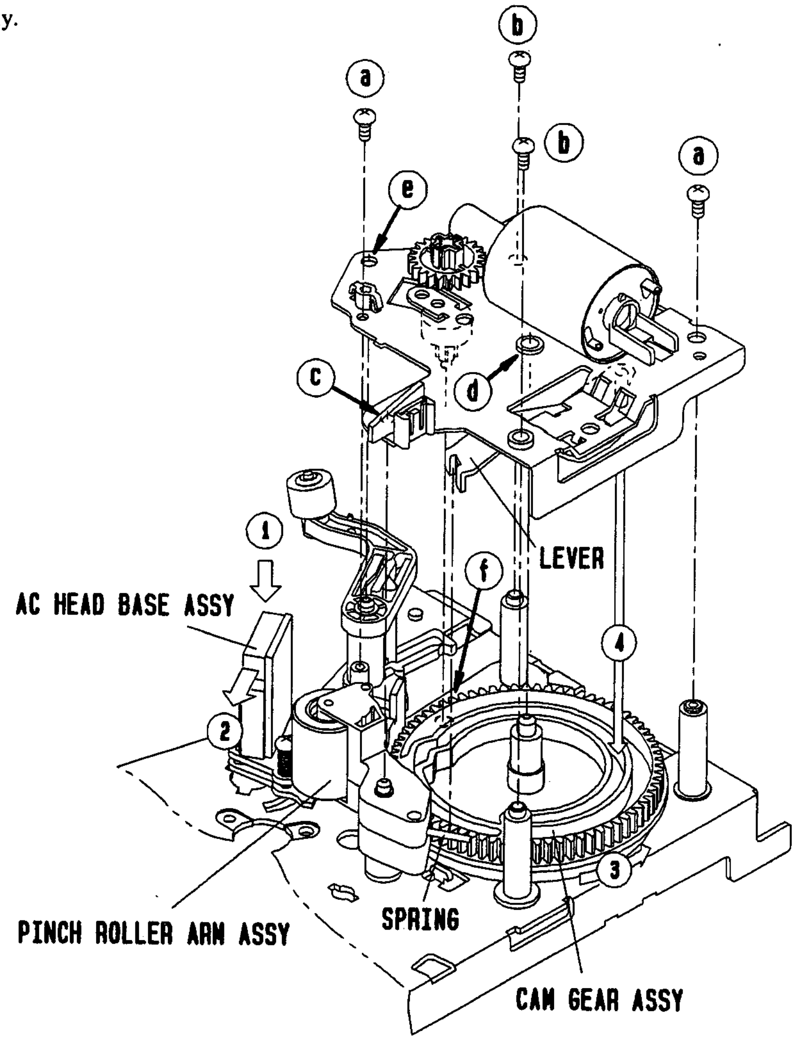


Fig-13

ELECTRICAL ADJUSTMENT

1. TAPE TRANSPORT ADJUSTMENT

1. 粗調整

1) 調整箇所（Fig-1 参照）
   - Ⓐ L BLOCK L ASSY
   - Ⓑ L BLOCK R ASSY
   - Ⓒ TAPE GUIDE ASSY

2) チェック方法
   - ① カセットケースのフタを外した生テープを入れ再生する。
   - ② Ⓐ～Ⓒの各ガイドのテープ走行中にカールのない事をチェックする。(Fig-2 参照)
     Ⓒ TAPE GUIDE ASSY にカールがある時は、3項の傾き調整をする。
     テープの下端がドラムリードに沿ってスムーズに走行する事をチェックする。

※ この時、PLAY/STOP を数回繰返しチェックする事。

2. FMエンベロープの調整

1) オシロスコープの接続方法
   CH-1 ...... PBY 信号
   （接続箇所は機種マニュアル参照）
   CH-2 ...... HSW-V（RF SWP）
   （接続箇所は機種マニュアル参照）

※ トリガーは、CH-2、TIME レンジは 5m sec/div にする。

2) 調整方法
   - ① トラッキングをマニュアルセンター位置にする。
   - ② Ⓐ L BLOCK L ASSY、Ⓑ L BLOCK R ASSY が軽く回転する程度にロックビスをゆるめる。(Fig-3 参照)
   - ③ FM エンベロープの波形が、平坦になる様、Ⓐ L BLOCK L ASSY、Ⓑ L BLOCK R ASSY を調整する。(Fig-4 参照)

   ※ PB、CUE/REV、ポーズを繰り返し、波形がすぐ平坦に復帰する事を確認する。
   - ④ FM エンベロープ調整後ロックビスを締める。
   - ⑤ ロックビスをネジロックで固定する。

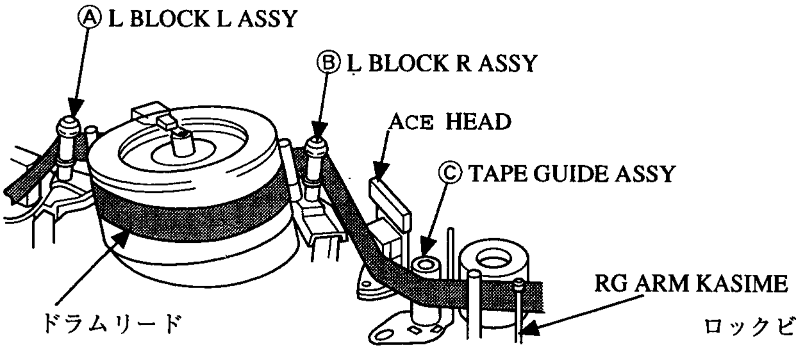
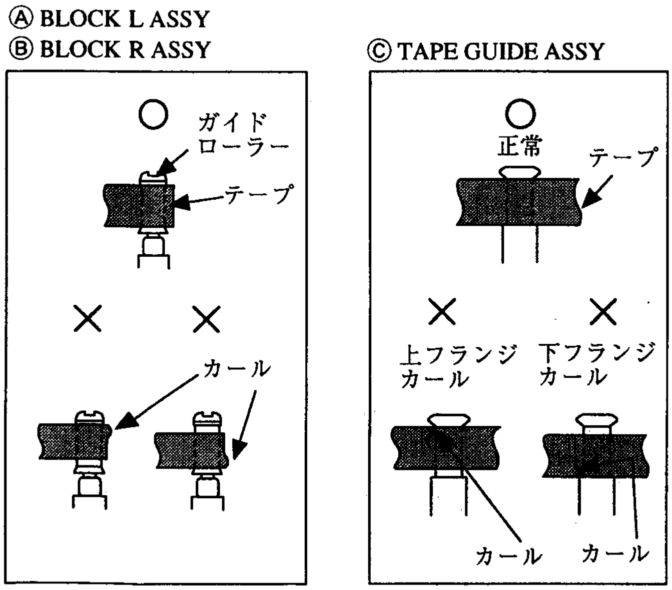

Ⓐ L BLOCK L ASSY
Ⓑ L BLOCK R ASSY
ACE HEAD
Ⓒ TAPE GUIDE ASSY
RG ARM KASIME
ドラムリード

Fig-1


Ⓐ BLOCK L ASSY
Ⓑ BLOCK R ASSY

Ⓒ TAPE GUIDE ASSY
○
ガイドローラー
テープ
×
×
カール
○
正常
テープ
×
×
上フランジカール
下フランジカール
カール
カール

Fig-2

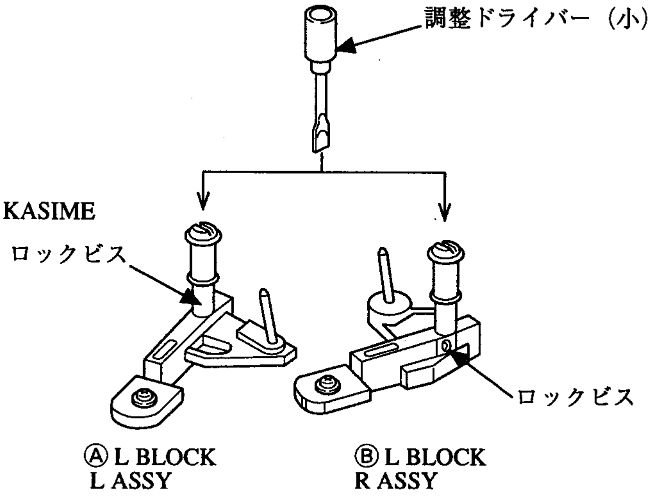

調整ドライバー（小）
ロックビス
ロックビス
Ⓐ L BLOCK L ASSY
Ⓑ L BLOCK R ASSY

Fig-3

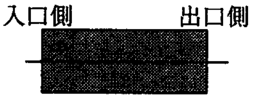
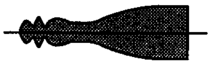
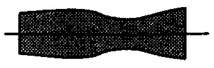
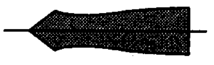
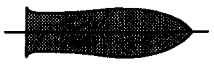
	正常時のFMエンベロープ波形
 Ⓐ L BLOCK L ASSYを反時計方向へ回す。	 Ⓑ L BLOCK R ASSYを反時計方向へ回す。
 Ⓐ L BLOCK L ASSYを時計方向へ回す。	 Ⓑ L BLOCK R ASSYを時計方向へ回す。

Fig-4

3. ACEヘッド調整（Fig-5参照）

1) **傾き調整方法**
   - ① カセットケースのフタを外した生テープを入れ再生する。
   - ② チルト調整ビスを時計方向に回し、Ⓒ TAPE GUIDE ASSYの下フランジにカールをつくる。(Fig-2参照)
   - ③ C TAPE GUIDE ASSYの下フランジにカールがなくなる時点までチルト調整ビスを反時計方向に回す。

2) **高さ調整方法**
   - ① オシロスコープをAUDIO OUT端子に接続する。
   - ※ TIMEレンジは0.5m sec/divにする。
   - ② アライメントテープを再生する。
   - ③ 波形が最大になる様、高さ調整ビスを調整する。

3) **アジマス調整方法**
   - ① 高さ調整と同様にオシロスコープを接続する。
   - ② アライメントテープを再生する。
   - ③ 波形が最大になる様、アジマス調整ビスを調整する。

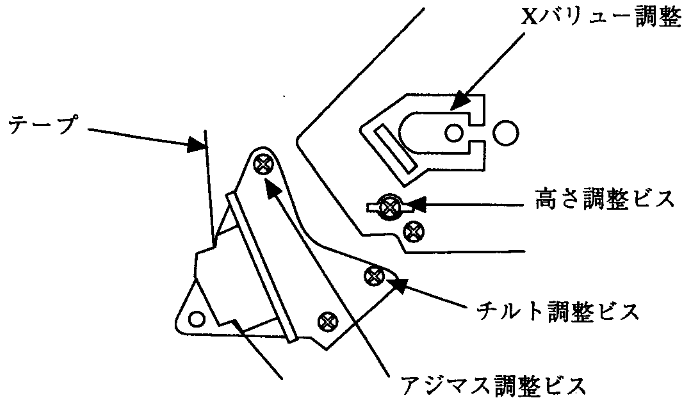

Xバリュー調整
テープ
高さ調整ビス
チルト調整ビス
アジマス調整ビス

Fig-5

4. Xバリュー調整

1) FMエンベロープ調整と同様に、オシロスコープを接続する。

2) **調整方法**
   - ① トラッキングをマニュアルセンター位置にする。
   - ② FMエンベロープ波形が最大になる様、Xバリュー調整をする。
   - ③ トラッキングボリュームをセンター位置から＋方向もしくは、－方向に可変し、波形が平坦なまま、振幅レベルが下がる事を確認する。

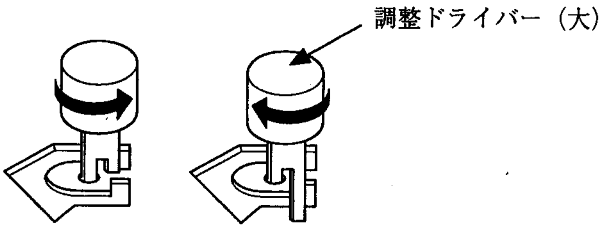


Fig-6

5. RGポスト高さ調整

1) カセットケースのフタを外した生テープを入れ、REVIEWにする。

2) **調整方法**
   - ① RGポスト高さ調整ビスを時計方向に回し、Ⓒ TAPE GUIDE ASSYの下フランジにカールをつくる。(Fig-2、Fig-6参照)
   - ② Ⓒ TAPE GUIDE ASSYの下フランジにカールがなくなる時点まで、RGポスト高さ調整ビスを反時計方向に回す。
   - ※ RGポストにカールが出来ないところREVIEW時、画が縦ゆれしないところに調整する。

6. 確認

1) Ⓐ～Ⓒの各ガイドにカールがない事を確認する。カールがある時は、2項FMエンベロープ調整から繰り返し調整する。

2) 調整終了後ロックビス、チルト調整ビスをネジロックで固定する。

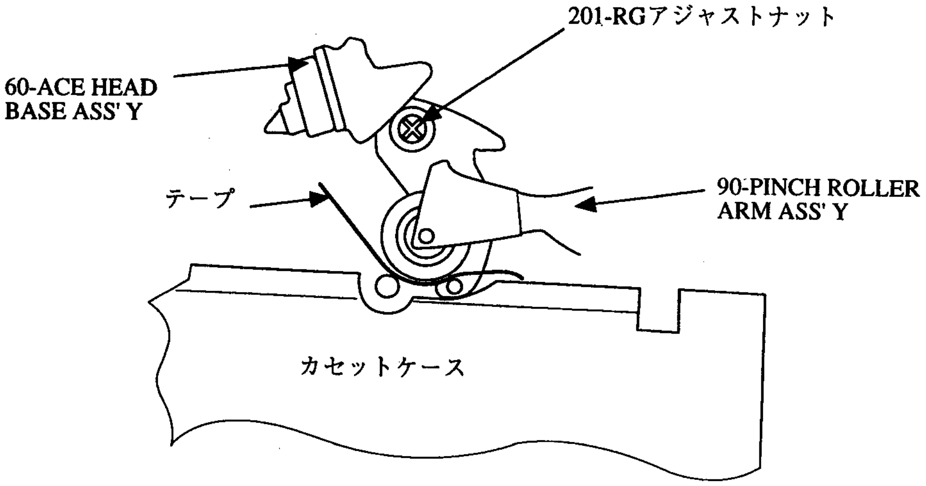

201-RGアジャストナット
60-ACE HEAD
BASE ASS' Y
テープ
90-PINCH ROLLER
ARM ASS' Y
カセットケース

Fig-7

ELECTRICAL ADJUSTMENT

1. TAPE TRANSPORT ADJUSTMENT

1. Coarse Adjustment

1) Adjustment Points (Refer to Fig-1.)
   - Ⓐ L BLOCK L ASSY
   - Ⓑ L BLOCK R ASSY
   - Ⓒ TAPE GUIDE ASSY

2) Check Procedure

① Prepare a recording tape from which the cassette case lid is removed. Insert the recording tape without cassette lid into the machine and establish the playback mode.

② Check that the tape has no curl at each guide from Ⓐ to Ⓒ when the tape is running. (See Fig-2.)
If tape curl is observed at the TAPE GUIDE ASSY Ⓒ, perform the slant adjustment of step 1) Slantness Adjustment Procedure of the following item 3. ACE HEAD ADJUSTMENT.
Check that bottom edge of the tape runs along with the drum rabbet guide of the drum smoothly.

* Repeat PLAY and STOP modes several times and check the tape curl.

2. FM ENVELOPE ADJUSTMENT

1) Oscilloscope Connection Procedure

CH-1 ...... Connect to the PB Y signal.
(Refer to the Service Manual of individual model for exact connection point.)

CH-2 ...... Connect to the HSW-V (RF SWP) signal.
(Refer to the Service Manual of individual model for exact connection point.)

* Trigger an oscilloscope internally from CH-2 with the TIME range of 5 msec/div.

2) Adjustment Procedure

① Set the Tracking to the MANUAL mechanical center position.

② Loosen the locking screws (referring to Fig-3) until the L BLOCK L ASSY Ⓐ and the L BLOCK R ASSY are gently rotatable.

③ Adjust the L BLOCK L ASSY Ⓐ and the L BLOCK R ASSY until the FM envelope waveform becomes flat. (Refer to Fig-4.)

* Repeat the PB, CUE/REV and PAUSE modes, and confirm that the waveform return to the flat shape immediately.

④ After completing the FM envelope adjustment, tighten the locking screw.

⑤ Apply the Neji-lock to the locking screw.

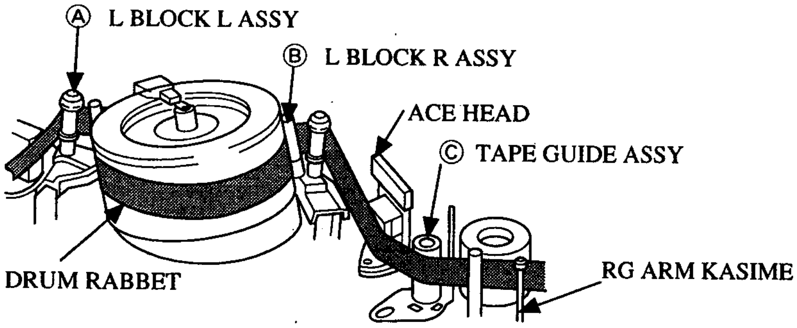
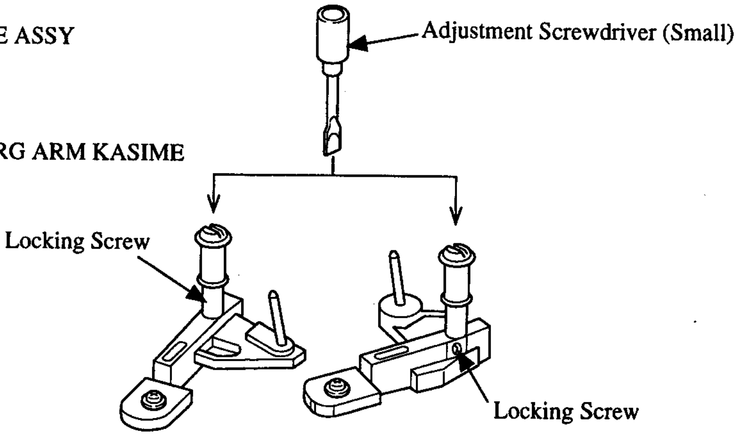

Ⓐ L BLOCK L ASSY
Ⓑ L BLOCK R ASSY
ACE HEAD
Ⓒ TAPE GUIDE ASSY
DRUM RABBET
RG ARM KASIME

Fig-1


Adjustment Screwdriver (Small)
Locking Screw
Locking Screw

Ⓐ L BLOCK L ASSY Ⓑ L BLOCK R ASSY

Fig-3

Ⓐ L BLOCK L ASSY
Ⓑ L BLOCK R ASSY

Ⓒ TAPE GUIDE ASSY

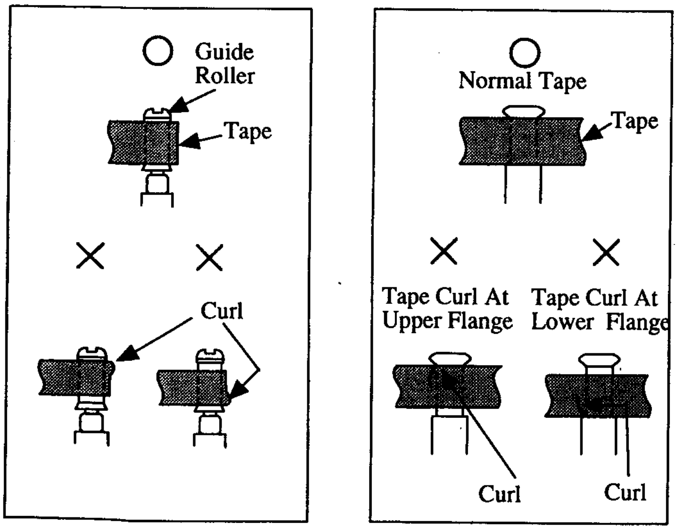
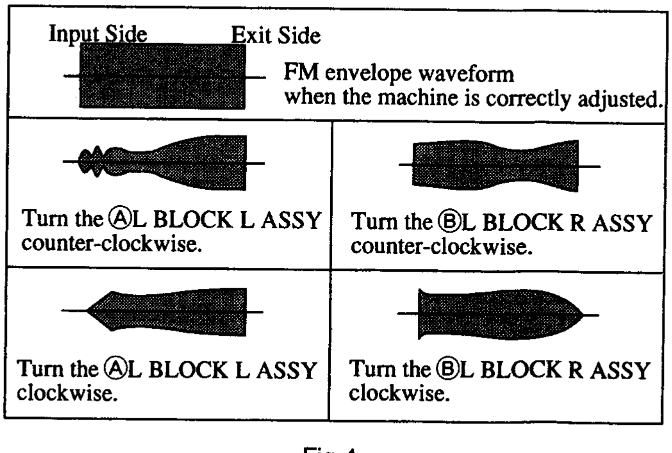

O
Guide Roller
Tape
×
×
Curl
O
Normal Tape
Tape
×
×
Tape Curl At Upper Flange
Tape Curl At Lower Flange
Curl
Curl

Fig-2


Input Side
Exit Side

FM envelope waveform when the machine is correctly adjusted.

Turn the ⒶL BLOCK L ASSY counter-clockwise.

Turn the ⒷL BLOCK R ASSY counter-clockwise.

Turn the ⒶL BLOCK L ASSY clockwise.

Turn the ⒷL BLOCK R ASSY clockwise.

Fig-4

3. ACE HEAD ADJUSTMENT (Refer to Fig-5.)

1) Slantness Adjustment Procedure

① Insert the recording tape without cassette lid, into the machine and establish the playback mode.

② Turn the tilt adjustment screw clockwise until tape curl is generated at the lower flange of the TAPE GUIDE ASSY ©. (Refer to Fig-2.)

③ Turn the tilt adjustment screw counter-clockwise until tape curl disappears at the lower flange of the TAPE GUIDE ASSY ©.

2) Height Adjustment Procedure

① Connect an oscilloscope to the AUDIO OUT terminal.

* Set the TIME range of an oscilloscope to 5 msec/div.

② Playback the alignment tape.

③ Adjust the height adjustment screw until the waveform has the maximum amplitude.

3) Azimuth Adjustment Procedure

① Connect an oscilloscope in the same way as the previous item "2) Height Adjustment Procedure".

② Playback the alignment tape.

③ Adjust the height adjustment screw until the waveform has the maximum amplitude.

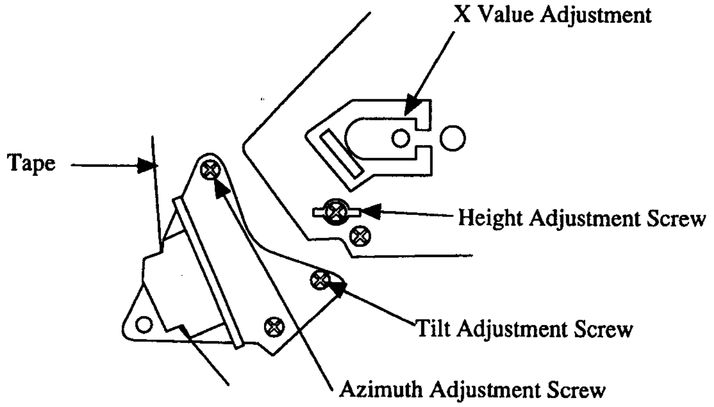


Fig-5

4. X VALUE ADJUSTMENT

1) Connect an oscilloscope in the same way as the previous section "2. FM ENVELOPE ADJUSTMENT".

2) Adjustment Procedure

① Set the Tracking to the MANUAL mechanical center position.

② Adjust the X value adjustment point until the FM envelope waveform has the maximum amplitude.

③ Turn the Tracking volume control in the direction of either "+" or "-" from the mechanical center position, and confirm that amplitude of the waveform decreases while maintaining the flat wave shape.

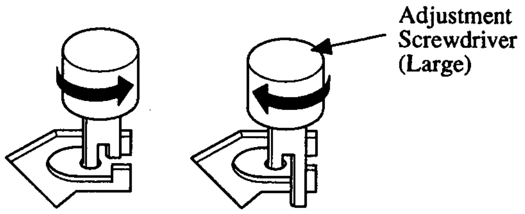


Fig-6

5. RG POST HEIGHT ADJUSTMENT

1) Insert the recording tape without cassette lid, into the machine and establish the REVIEW mode.

2) Adjustment Procedure

① Turn the RG post height adjustment screw clockwise until tape curl is generated at the lower flange of the TAPE GUIDE ASSY ©. (Refer to Fig-2 and Fig-6.)

② Turn the RG post height adjustment screw counter-clockwise until tape curl disappears at the lower flange of the TAPE GUIDE ASSY ©.

* When performing this adjustment, find the adjustment point where tape curl disappears and the playback picture does not have vertical shaking during REVIEW mode.

6. CHECK

1) Check that there is no tape curl at the respective tape guides from Ⓐ to ©. If tape curl is observed, repeat adjustment starting from the section "2. FM ENVELOPE ADJUSTMENT".

2) Apply the Neji-lock to the locking screw and tilt adjustment screw.

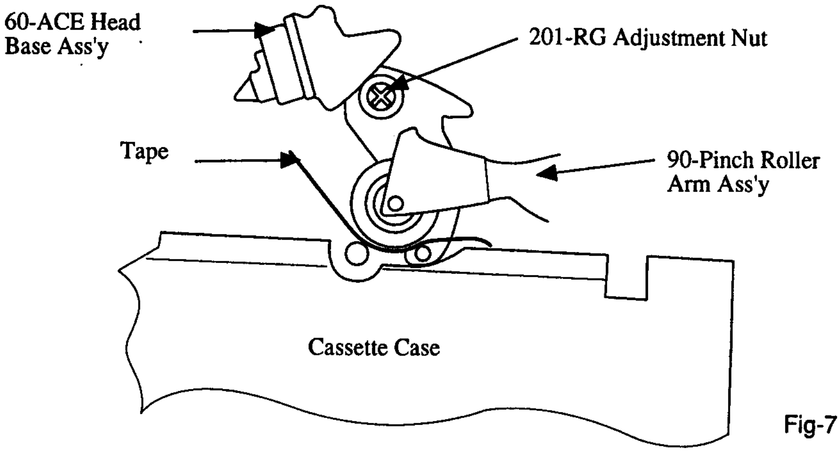


Fig-7

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW,SERRART

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

912162

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aiwa

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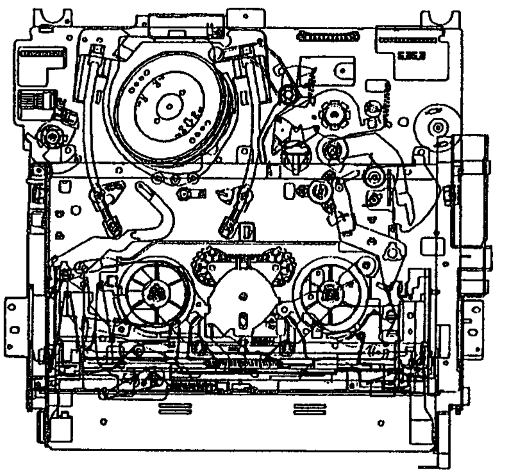
SERVICE

TN-6500



VIDEO MECHANISM

•TYPE: English, Japanese

SERVICE MANUAL

●This Service Manual has information about difference between TN-6500 111/211/212/213/218/219 and TN-6500 107/108/109/110/206/208. If requiring the other information, see Service Manual of TN-6500. (S/M Code No. 09-95B-115-90T).

●このサービスマニュアル TN-6500 111/211/212/213/218/219は、TN-6500 107/108/109/110/206/208との変更部分のみを載せます。共通部分については、S/M Code No. 09-95B-115-90Tを参照して下さい。

BASIC NAME	DERIVATION						
	NO.	NAME					
TN-6500	A	109	110	111			
	B	107	108				
	C	211 (206)	213 (209)	218			
	D	212 (208)	219				

●For different versions of mechanism that may be introduced since the issue of this manual, only the new or modified points will be discussed.

●本サービスマニュアル発行後の派生メカニズムは 新規作成、相違点のみ発行します。

S/M Code No. 09-967-146-70T

VCR TEST TAPE INTERCHANGEABILITY TABLE

新しいタイプのテストテープは、CH-1 (NTSC用) とCH-2 (PAL用) の2種類があります。それぞれのテープには、(1) ～ (4) で区別する4種類の信号が、次の順番と時間で記録されています。
There are two types of the new allgnment tape CH-1B (for NTSC) and CH-2 (for PAL) . On each tape four signals (1) - (4) are recorded for the times and in the order shown below.

(1) : 8min. → (2) : 2min. → (3) : 5min. → (4) : 5min.

TTV-MP1 (M-PAL用) ,TTV-MS1 (MESECAM用) ,TTV-S1 (SECAM用) については現行通りです。
The TTV-MP1 (for M-PAL) ,TTV-MS1 (for MESECAM) and TTV-S1 (for SECAM) allgnment tapes have the same contents as the previous tapes.

方式 Method	現行タイプ Now in use TYPE		新タイプ New Type		主な用途 Application
	テープ名 Model	記録内容 ※1 Contents ※1	テープ名 Model	記録内容 ※1 Contents ※1	
NTSC	TTV-N1	NTSC,Color, 1kHz,SP	CH-1B(2)	NTSC,Stairsteps, 1kHz,SP	PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 PB-Y Level/General electrical ADJ.Head ACE Height/Tilt ADJ.
	TTV-N1E	NTSC,Color, 1kHz,EP	CH-1B(4) ※2	NTSC,Color,1kHz, EP	ｽｲｯﾁﾝｸﾞ位置調整。 Switching position ADJ.
	TTV-N2	NTSC,Stairsteps, 7kHz,SP	CH-1B(1)	NTSC,Stairsteps, 7kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。ｽｰﾊﾟｰｸﾘｱｰﾋﾟｸﾁｬｰのﾚﾍﾞﾙ調整。 Head ACE Azimuth ADJ.
	TTV-N12 (SCV-1998)	NTSC,Color, 1kHz,SP	CH-1B(4)	NTSC,Color,1kHz, EP	FMｴﾝﾍﾞﾛｰﾌﾟ調整。Xﾊﾞﾘｭｰ(位相)調整。 FM Envelope ADJ. X-Value ADJ.
	TTV-N7A	NTSC,Stairsteps, 1kHz,SP,HiFi400Hz	CH-1B(3)	NTSC,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
PAL	TTV-P1	PAL,Color, 1kHz,SP	CH-2(2) ※3	PAL,Stairsteps, 1kHz,SP	ｽｲｯﾁﾝｸﾞ位置調整。(SP専用ﾓﾃﾞﾙ)PB-Yﾚﾍﾞﾙ調整等の一般電気調整。ACEﾍｯﾄﾞの高さ/傾き調整。 Switching position ADJ. PB-Y Level/General electrical ADJ. Head ACE Height/Tilt ADJ.
	TTV-P1L	PAL,Color, 1kHz,LP	CH-2(4)	PAL,Color,1kHz, LP	ｽｲｯﾁﾝｸﾞ位置調整。(LP対応ﾓﾃﾞﾙ)FMｴﾝﾍﾞﾛｰﾌﾟ調整。(LP対応ﾓﾃﾞﾙ) Xﾊﾞﾘｭｰ(位相)調整。(LP対応ﾓﾃﾞﾙ) Switching position.(LP Model)FM Envelope ADJ. (LP Model)X-Value ADJ.(LP Model)
	TTV-P2	PAL,Stairsteps, 6kHz,SP	CH-2(1)	PAL,Stairsteps, 6kHz,SP	ACEﾍｯﾄﾞのｱｼﾞﾏｽ調整。FMｴﾝﾍﾞﾛｰﾌﾟ調整。(SP専用ﾓﾃﾞﾙ) Xﾊﾞﾘｭｰ(位相)調整。(SP専用ﾓﾃﾞﾙ) Head ACE Azimuth ADJ. FM Envelope ADJ.(SP Model) X-Value ADJ.(SP Model)
	TTV-P7	PAL,Stairsteps, 1kHz,SP,HiFi 1kHz	CH-2(3)	PAL,Color,No sound SP,HiFi400Hz	HiFiｵｰﾃﾞｨｵ再生ﾚﾍﾞﾙ調整。 HiFi Audio PB Level ADJ.
	TTV-P16	PAL,Color, 400Hz,SP,HiFi 1kHz	変更なし No Changed.		FMﾌｨﾙﾀｰ調整 FM Filter ADJ.

※ 1. ｶﾗｰ方式→映像信号→ﾉｰﾏﾙ音声→ﾃｰﾌﾟｽﾋﾟｰﾄﾞ→HiFi音声 の順で記載されています。
※ 1. Described in the order of color format. video signal. linear audio. tape speed and Hi-Fi audio.
※ 2. SP専用ﾓﾃﾞﾙの場合は、CH-1Bの (1) ～ (3) を使用して下さい。
※ 2.Use CH-1B (1) - (3) with models used exclusively in the SP mode.
※ 3. 色信号の観測が必要な場合はCH-2の (3) または (4) を使用して下さい。
※ 3.Use CH-2 (3) and (4) when it is necessary to observe the chroma signal.

STANDARD MAINTENANCE

1. SERVICE SCHEDULE

○：チェック　●：交換

デッキ			定期サービス表			
BLOCK NAME	Ref. No.	部品名	1000h	2000h	3000h	4000h
	110	TENSION ARM ASS' Y		●		●
	80, 81	T.S REEL ASS' Y			●	
	120	SUB PLATE ASS' Y		●		●
	142	LOADING MOTOR ASS' Y			●	
	100	CAPSTAN MOTOR		●		●
	90	PINCH ROLLER ARM ASS' Y		●		●
	123	RF CLUTCH ASS' Y		●		●
	61	ACE HEAD HVMZA1220			●	
	66	FE HEAD BASE ASS' Y			●	
	5	DRUM EARTH ASS' Y			●	
	1	CYLINDAR ASS' Y	○	●	○	●

注意：

- テープ走行系のすべての部品を清掃し、清掃後はデッキ調整すべてを行なうこと。
  ビデオヘッド/ピンチローラ/ACEヘッド/フルイレーズヘッド

2. CLEANING

1.　ビデオヘッドの清掃（Fig-1参照）

1) スチールキャビネットをはずす。
2) 素手でアッパードラムやロワードラムに触れぬ様手袋（薄いもの）をする。
3) ヘッドクリーニング用クロス又はセーム（鹿）皮にアルコールを2、3滴つけ、ヘッドチップに軽くあててアッパードラムを反時計方向に回す。

注意

- ビデオヘッドは非常に硬い物質でできていますが、非常に薄いため、縦方向に清掃するのは避けて下さい。
- 清掃した箇所が乾くまでセットを作動しないで下さい。
- 汚れたヘッドクリーニング用クロス又はセーム（鹿）皮は再使用しないで下さい。

2.　ACヘッドのクリーニング（Fig-2参照）

1) スチールキャビネットを外す。
2) ヘッドクリーニング用クロス又はセーム（鹿）皮にアルコールを2、3滴つけて、アッパードラムや他の走行系部品を痛めない様注意しながら、クリーニングする。

注意

- ACヘッドを縦方向にクリーニングしないで下さい。
- クリーニングした箇所が乾くまでセットを作動しないで下さい。

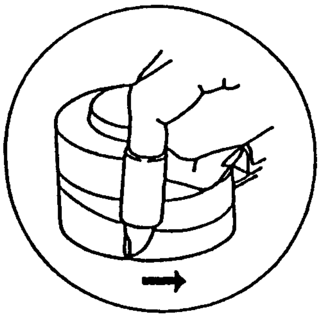


Fig-1

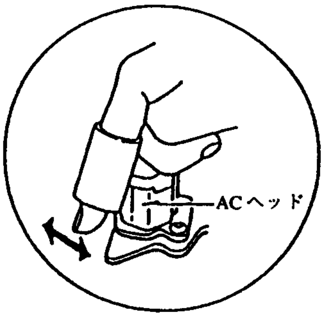


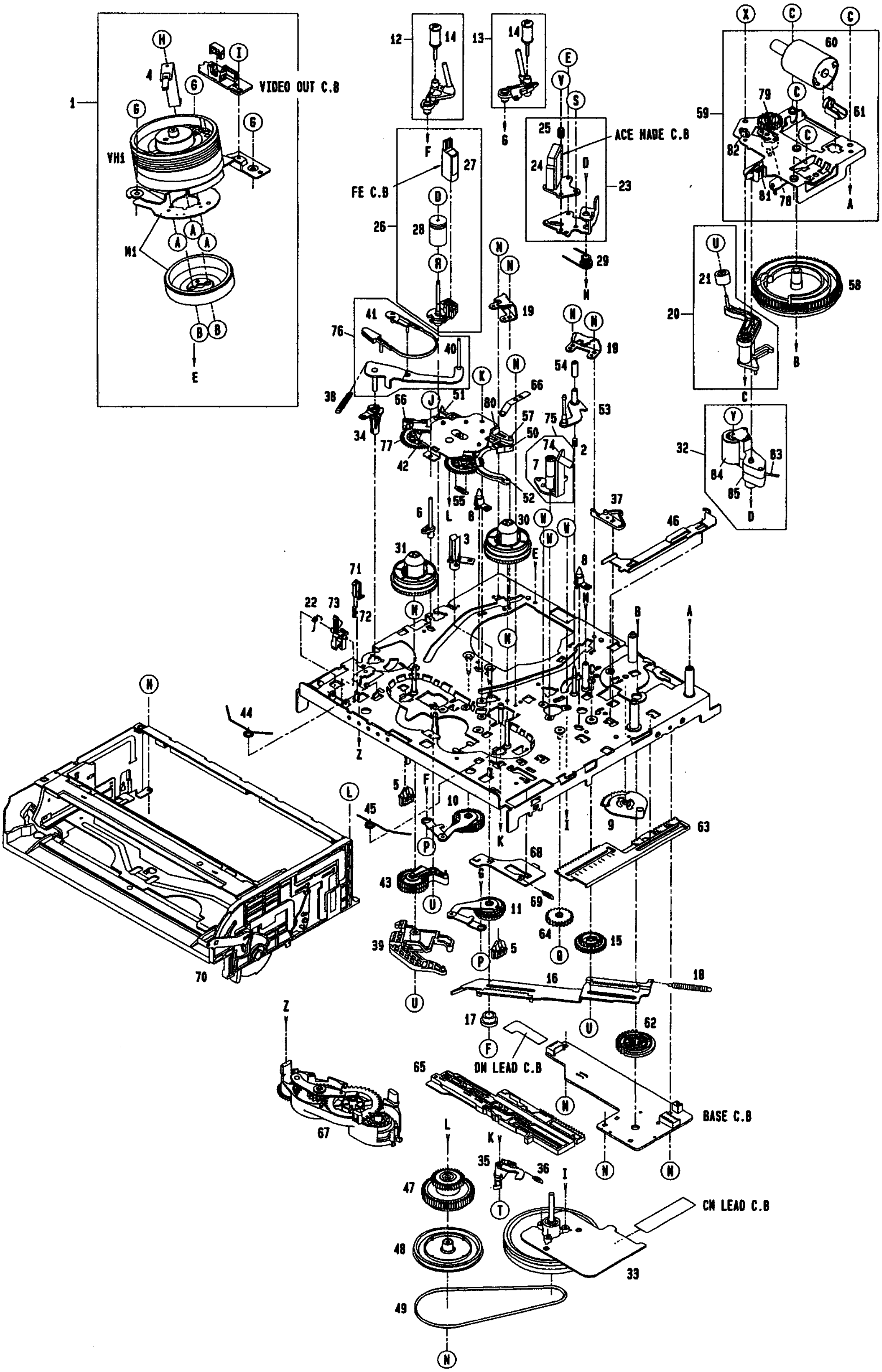
Fig-2

DISASSEMBLY PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	S8-067-017-060	--	CYLINDAR ASS'Y<208>
1	S8-066-016-030	--	CYLINDAR ASS'Y<109>
1	S8-066-016-010	--	CYLINDAR ASS'Y<107,108>
1	S8-066-016-080	--	CYLINDAR ASS'Y<110>
1	S8-065-017-010	--	CYLINDAR ASS'Y<206,219>
1	S8-065-016-090	--	CYLINDAR ASS'Y<111>
1	S8-065-017-070	--	CYLINDAR ASS'Y<213,211>
1	S8-065-017-080	--	CYLINDAR ASS'Y<212>
1	S8-065-017-110	--	CYLINDAR ASS'Y<218>
2	S8-065-170-050	--	RG ARM SPRING<EXCEPT 107,108,109 206>
3	S8-065-130-010	--	OPTICAL LEADER
4	S8-065-015-010	--	DRUM EARTH ASS'Y
5	S8-065-133-030	--	RS LEADER
6	S8-065-023-010	--	F POST METAL ASS'Y
7	S8-065-023-020	--	TAPE GUIDE ASS'Y<107,108,109,110 206,208>
7	S8-065-023-040	--	TAPE GUIDE ASS'Y<213,111,211,219 212,218>
8	S8-063-020-230	0E	CASSETE GUIDE BOSS
9	S8-065-035-020	--	LOADING LEVER KASIME
10	S8-063-033-050	2A	LOADING PLATE L ASS'Y
11	S8-065-033-050	--	LOADING PLATE R ASS'Y
12	S8-065-033-030	--	L BLOCK L ASS'Y
13	S8-065-033-040	--	L BLOCK R ASS'Y
14	S8-063-030-090	2A	ROLLER POST
15	S8-065-030-040	--	LOADING GEAR
16	S8-065-030-050	--	L GEAR PLATE
17	S8-065-030-110	--	L GEAR PLATE COLLOR
18	S8-065-030-100	--	L GEAR PLATE SPRING
19	S8-065-030-010	--	LD CATCHER
20	S8-065-033-060	--	HEAD CLEANING ASS'Y
21	S8-063-030-290	--	CLEANING ROLLER ASS'Y
22	S8-065-130-050	--	REC LEVER SPRING<EXCEPT 107,206 211>
23	S8-065-043-030	--	AC HEAD BASE ASS'Y<107,206,211>
23	S8-065-043-020	--	ACE HEAD BASE ASS'Y<EXCEPT 107 206,211>
24	S6-204-030-240	--	AC HEAD HVMZB1030<107,206,211>
24	S6-204-150-200	--	ACE HEAD HVMZA1220<EXCEPT 107 206,211>
25	S8-000-060-040	0E	AZIMUTH SPRING
26	S8-065-043-010	--	FE HEAD BASE ASS'Y
27	S6-209-150-040	--	VTR1X2ERS11107<EXCEPT 107,206 211>
28	S8-063-043-060	--	IMPEDANCE ROLLER ASS'Y
29	S8-065-040-020	--	HEAD BASE SPRING
30	S8-065-053-010	--	T REEL ASS'Y
31	S8-065-053-020	--	S REEL ASS'Y
32	S8-065-063-010	--	PINCH ROLLER ARM ASS'Y
33	S6-003-030-600	--	CAPSTAN MOTOR F2QTB10 (M2)
34	S8-063-080-040	1A	BT ARM METAL
35	S8-065-073-010	--	C BRAKE ASS'Y
36	S8-065-070-020	--	C BRAKE SPRING
37	S8-065-170-040	--	RG LEVER
38	S8-065-080-020	--	BT SPRING
39	S8-065-080-060	--	BT LEVER
40	S8-065-083-020	--	TENSION ARM SEMI ASS'Y
41	S8-065-083-030	--	BT BAND ASS'Y
42	S8-065-093-030	--	SUB PLATE ASS'Y
43	S8-065-093-040	--	RF CLUTCH ASS'Y
44	S8-065-100-070	--	TS BRAKE SPRING
45	S8-065-100-090	--	SS BRAKE SPRING
46	S8-065-100-100	--	TS BRAKE LEVER
47	S8-065-093-020	--	CLUTCH ASS'Y
48	S8-065-093-010	--	CLUTCH PULLY ASS'Y
49	S8-065-090-200	--	DRIVE BELT
50	S8-065-103-010	--	T MAIN BRAKE ASS'Y
51	S8-065-103-020	--	S MAIN BRAKE ASS'Y
52	S8-065-103-030	--	T SOFT BRAKE ASS'Y
53	S8-065-175-010	--	RG ARM KASIME
54	S8-065-170-030	--	RG ADJUST NUT
55	S8-065-100-050	--	MAIN BRAKE SPRING
56	S8-065-100-080	--	S SOFT BRAKE ARM
57	S8-065-110-140	--	REVERSE LEVER PIN
58	S8-065-113-020	--	CAM GEAR ASS'Y
59	S8-065-113-010	--	CAM PLATE ASS'Y
60	S8-065-113-030	--	LOADING MOTOR ASS'Y(M3)
61	S8-065-110-110	--	MOTOR HOLDER
62	S8-065-110-040	--	M GEAR
63	S8-065-113-050	--	M GEAR PLATE ASS'Y
64	S8-065-110-070	--	M RELAY GEAR
65	S8-065-110-080	--	M SLIDE PLATE
66	S8-065-110-170	--	R LEVER SPRING PLATE
67	S8-065-153-010	--	FD GEAR CASE ASS'Y
68	S8-065-150-090	--	FD SLIDE PLATE
69	S8-065-150-100	--	FD SLIDE PLATE SP
70	S8-065-163-010	--	FRONT LOADING ASS'Y
71	S8-065-130-060	--	IN SWITCH SLIDER
72	S8-065-130-070	--	IN SW SLIDER SPRING
73	S8-065-130-040	--	REC SWITCH LEVER<EXCEPT 107,206 211>
74	S8-065-020-210	--	TAPE PROTECT<213,111,211,219,212 218>
75	S8-065-023-030	--	TAPE GUIDE BASE ASS'Y<213,111,211 219,212,218>
76	S8-065-083-010	--	TENSION ARM ASS'Y
77	S8-065-093-070	--	GEAR PLATE ASS'Y
78	S8-065-110-030	--	CAM DRIVE GEAR
79	S8-065-110-100	--	WORM WHEEL
80	S8-065-110-130	--	REVERS LEVER
81	S8-065-110-150	--	OPEN ANGLE
82	S8-065-110-160	--	AH ADJUST NUT
83	S8-065-060-040	--	PINCH ROLLER SPRING<213,111,211 219,212,218>
84	S8-065-060-050	--	PINCH ROLLER<213,111,211,219,212 218>
85	S8-065-065-010	--	PINCH ROLLER KASIME<213,111,211 219,212,218>
A	S9 P02-261-510	--	TAMS SCREW 2.6X15
B	S8 065-013-150	--	ROTOR SCREW B ASS'Y
C	S9-P02-260-510	0E	TAMS SCREW 2.6X5
D	S9-W02-300-500	0E	POLTSIDER WASHER1.6X3.8X0.3
E	S9-P09-300-610	0E	SCREW (SHARP-POINTED) 3X6
F	S9-W02-300-600	0E	POLYSLIDER WASHER2.1X5X0.5
G	S9-P04-300-510	0E	TAPPING SCREW 3.0X5
H	S9-P04-260-410	0E	TAPPING SCREW 2.6X4
I	S9-P12-260-640	0E	TAMS SCREW (TAPPING) S 2.6X6
J	S9-C04-265-030	0E	CAMERA SCREW(TAPPING)S 2.6X5
K	S9 P04-200-410	--	TAPPING SCREW 2.0X4
L	S9-B03-260-510	0E	TAPPING SCREW(BIND) 2.6X5
M	S9-W03-301-100	0E	NYLON WASHER 2.5X5X0.3
N	S9-P04-260-510	0E	TAPPING SCREW 2.6X5
P	S9-W06-501-100	0E	HL WASHER(CUT)4.5X7X0.5
Q	S9-W06-301-000	--	HLW(C) 2.6X6X0.3
R	S9-W06-300-400	0E	HL WASHER(CUT) 1.55X4.5X0.3
S	S9-P01-260-720	0E	SCREW 2.6X7
T	S9-W02-501-000	0E	POLYSLIDER WASHER2.1X5X0.5
U	S9-W02-501-100	0E	POLYSLIDER WASHER2.6X6X0.5
V	S8-000-060-260	0E	AZIMATH SPRING SCREW
W	S9-P07-260-610	--	TAPPING SCREW P 2.6 X 6
X	S9-F22-260-810	--	ADJUST SCREW 2.6X8
Y	S9-B01-260-410	--	SCREW,BIND 2.6-4<213,111,211,219 212,218>

EXPLODED VIEW



1
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VIDEO OUT C.B
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FE C.B
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ACE HADE C.B
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DM LEAD C.B
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BASE C.B
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CM LEAD C.B

HOW TO ASSEMBLE THE PARTS

1. L GEAR PLATE

L GEAR PLATE (16) の取付けの際は以下 1) ～ 4) に注意すること。

1) L BLOCK R ASSY (13) と L BLOCK L ASSY (12) がアンスレッディング状態であること。
2) LOADING GEAR (15) と L GEAR PLATE (16) のマークを合わせる。
3) LOADING PLATE R ASSY (11) と L GEAR PLATE (16) のマークを合わせる。
4) LOADING LEVER KASIME (9) が矢印方向に止まるまで回転していること。

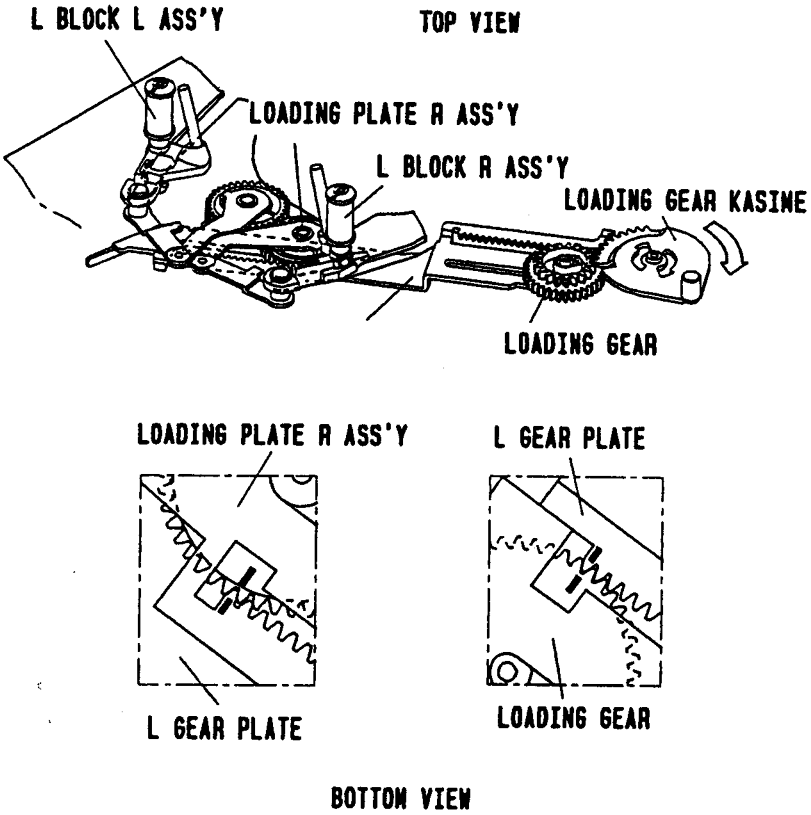

L BLOCK L ASS'Y
TOP VIEW
LOADING PLATE R ASS'Y
L BLOCK R ASS'Y
LOADING GEAR KASINE
LOADING GEAR
LOADING PLATE R ASS'Y
L GEAR PLATE
L GEAR PLATE
LOADING GEAR
BOTTOM VIEW

Fig-1

2. ACE HEAD BASE ASSY

1) ビス Ⓥ を完全に締めつけ、※部が平行になるようにビス Ⓢ を締めながら調整する。

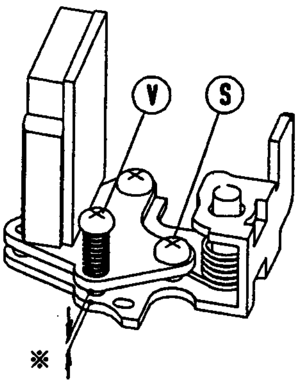


Fig-2

3. RF CLUTCH ASSY

1) M SLIDE PLATE (65) の構に RF CLUTCH ASSY (43) のシャフトを入れる。

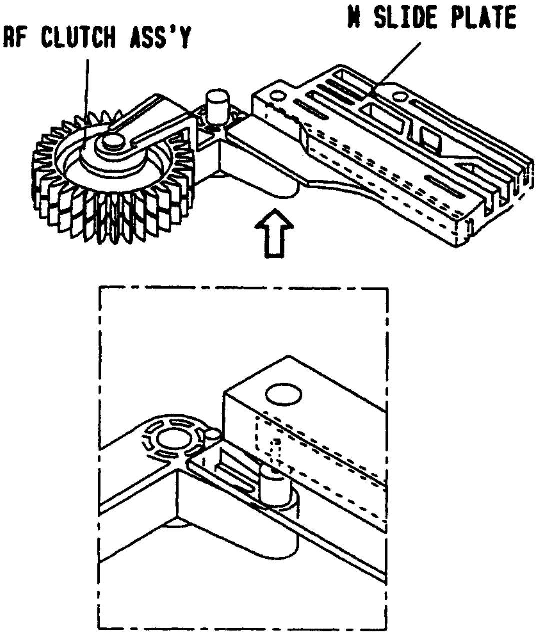

RF CLUTCH ASS'Y
M SLIDE PLATE

Fig-3

3. ACE HEAD ADJUSTMENT (Refer to Fig-5.)

1) Slantness Adjustment Procedure
   - ① Insert the recording tape without cassette lid, into the machine and establish the playback mode.
   - ② Turn the tilt adjustment screw clockwise until tape curl is generated at the lower flange of the TAPE GUIDE ASSY ©. (Refer to Fig-2.)
   - ③ Turn the tilt adjustment screw counter-clockwise until tape curl disappears at the lower flange of the TAPE GUIDE ASSY ©.
2) Height Adjustment Procedure
   - ① Connect an oscilloscope to the AUDIO OUT terminal.
   - * Set the TIME range of an oscilloscope to 5 msec/div.
   - ② Playback the alignment tape.
   - ③ Adjust the height adjustment screw until the waveform has the maximum amplitude.
3) Azimuth Adjustment Procedure
   - ① Connect an oscilloscope in the same way as the previous item "2) Height Adjustment Procedure".
   - ② Playback the alignment tape.
   - ③ Adjust the height adjustment screw until the waveform has the maximum amplitude.

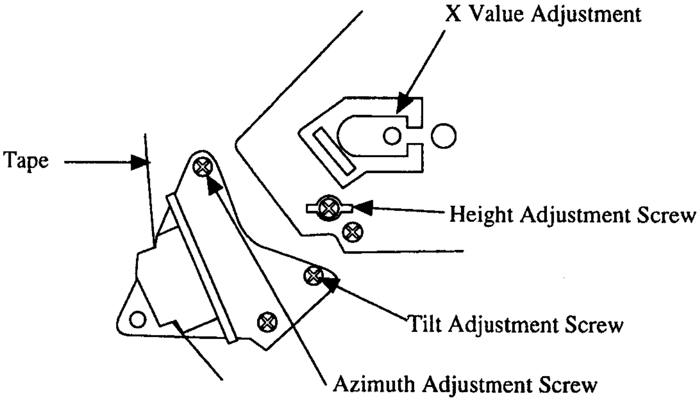


Fig-5

4. X VALUE ADJUSTMENT

1) Connect an oscilloscope in the same way as the previous section "2. FM ENVELOPE ADJUSTMENT".
2) Adjustment Procedure
   - ① Set the Tracking to the MANUAL mechanical center position.
   - ② Adjust the X value adjustment point until the FM envelope waveform has the maximum amplitude.
   - ③ Turn the Tracking volume control in the direction of either "+" or "-" from the mechanical center position, and confirm that amplitude of the waveform decreases while maintaining the flat wave shape.

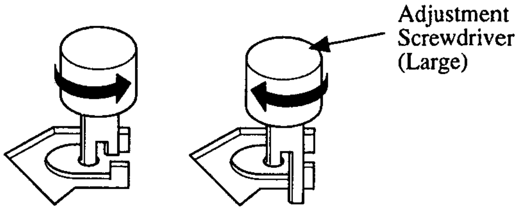


Fig-6

5. RG POST HEIGHT ADJUSTMENT

1) Insert the recording tape without cassette lid, into the machine and establish the REVIEW mode.
2) Adjustment Procedure
   - ① Turn the RG post height adjustment screw clockwise until tape curl is generated at the lower flange of the TAPE GUIDE ASSY ©. (Refer to Fig-2 and Fig-6.)
   - ② Turn the RG post height adjustment screw counter-clockwise until tape curl disappears at the lower flange of the TAPE GUIDE ASSY ©.
   - * When performing this adjustment, find the adjustment point where tape curl disappears and the playback picture does not have vertical shaking during REVIEW mode.

6. CHECK

1) Check that there is no tape curl at the respective tape guides from Ⓐ to ©. If tape curl is observed, repeat adjustment starting from the section "2. FM ENVELOPE ADJUSTMENT".
2) Apply the Neji-lock to the locking screw and tilt adjustment screw.

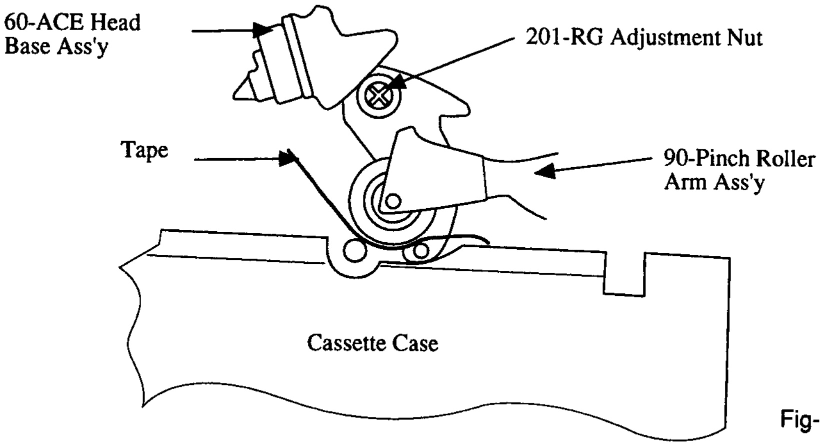
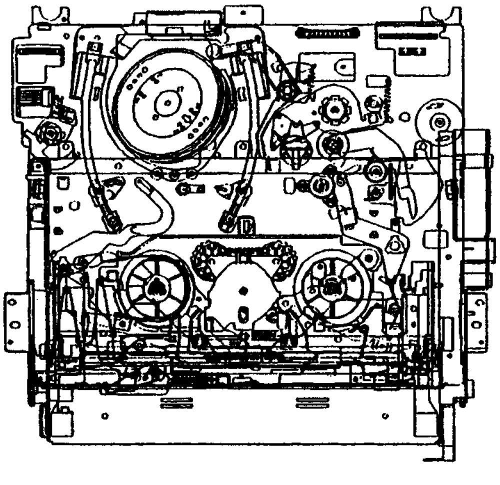


Fig-7

aiwa

aiwa
SERVICE

TN-6500



VIDEO MECHANISM

• TYPE: English

SERVICE MANUAL

SUPPLEMENT

BASIC NAME	DERIVATION				
	NO.	NAME			
TN-6500	A				
	B	232			
	C				
	D				

This Service Manual has information about difference between TN-6500 232 and tn-6500 117. If reguiring the other information,see Service Manual of TN-6500.(S/M Code No.09-977-210-30T)

S/M Code No. 09-987-279-5OT

MECHANICAL PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S8-065-017-200		CYLINDAR ASSY				
27	S6-204-150-180		FE HEAD HVFHG0003				
33	S6-003-030-690		CAPSTAN MOTOR(F3QTB14)				
86	S8-065-013-010		V OUT PWB ASSY				
91(M1)	S8-065-013-160		DRUM MOTOR ASSY(M1)				

▶

サービス技術ニュース	
番号	連絡内容
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G— —	
G— —	

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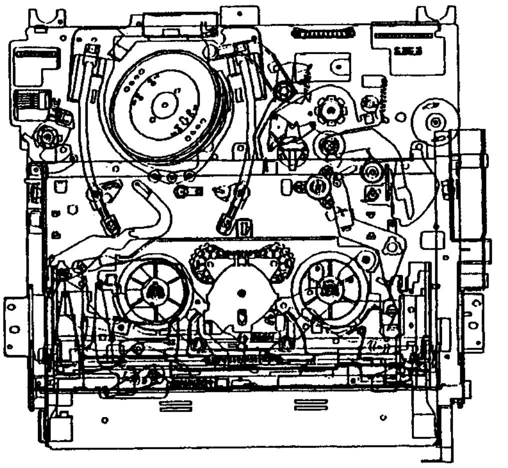
SERVICE

TN-6500



VIDEO MECHANISM

•TYPE: English, Japanese

●This Service Manual has information about difference between TN-6500 117/118/119/120/227 and TN-6500 107/108/109/110/206/208. If requiring the other information, see Service Manual of TN-6500. (S/M Code No. 09-95B-115-90T). V15136 #2004063

●このサービスマニュアル TN-6500 117/118/119/120/227は、TN-6500 107/108/109/110/206/208との変更部分のみを載せます。共通部分については、S/M Code No. 09-95B-115-90Tを参照して下さい。

BASIC NAME	DERIVATION						
	NO.	NAME					
TN-6500	A	109	110	111	118	120	
	B	107	108	117			
	C	211 (206)	213 (209)	218	227		
	D	212 (208)	219	119			

●For different versions of mechanism that may be introduced since the issue of this manual, only the new or modified points will be discussed.

●本サービスマニュアル発行後の派生メカニズムは　新規作成、相違点のみ発行します。

SERVICE MANUAL

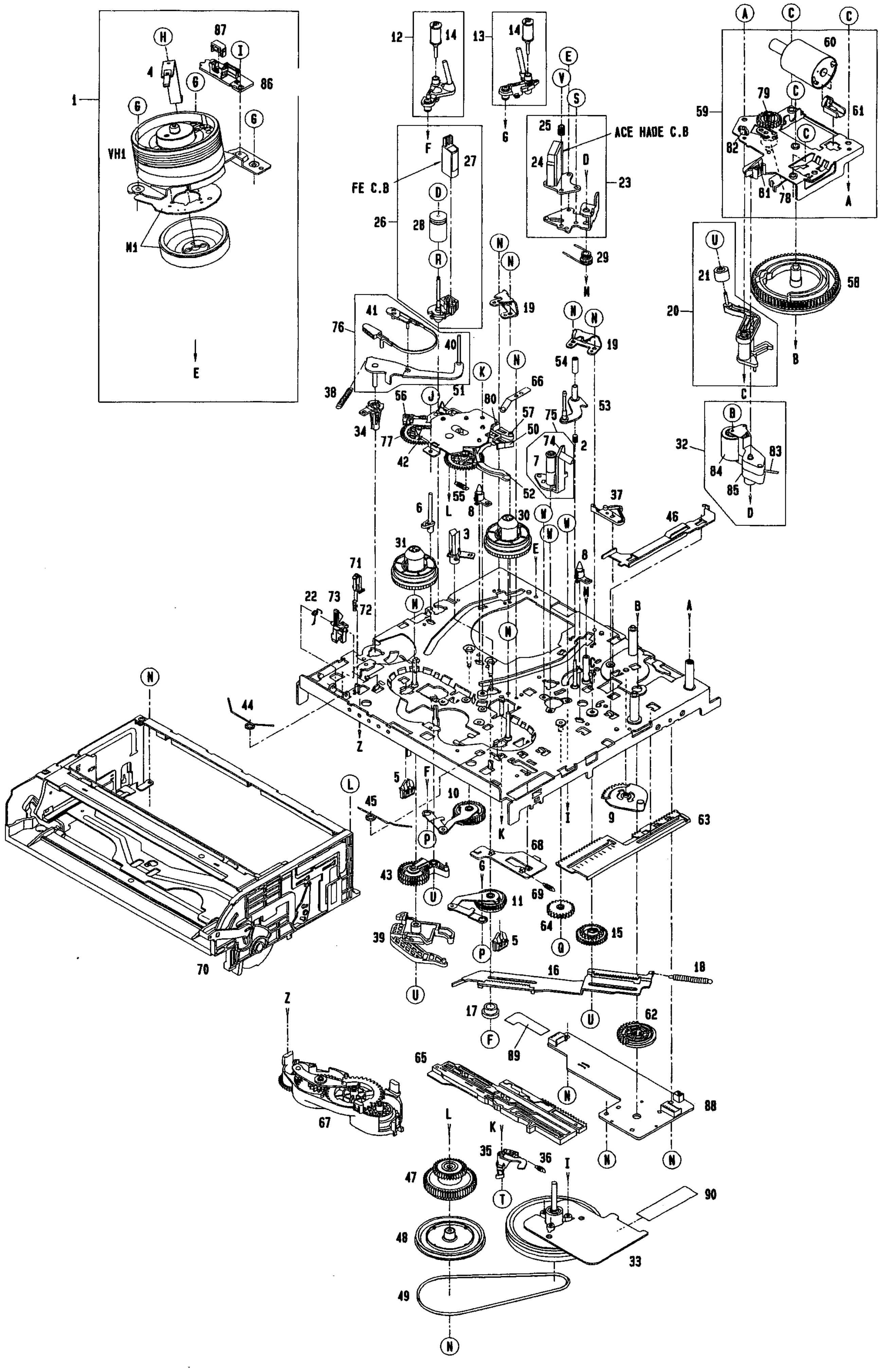
S/M Code No. 09-977-210-30T

DISASSEMBLY PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S8-065-016-110		CYLINDAR ASSY<119>
1	S8-065-017-110		CYLINDAR ASSY<117>
1	S8-065-016-090		CYLINDAR ASSY<118>
1	S8-065-016-130		CYLINDER ASSY<227>
1	S8-065-016-120		CYLINDER ASY<120>
2	S8-065-170-050		RG ARM SPRING
3	S8-065-130-010		OPTICAL LEADER
4	S8-065-015-010		DRUM EARTH ASS'Y
5	S8-065-133-030		RS LEADER
6	S8-065-023-010		F POST METAL ASS'Y
7	S8-065-023-040		TAPE GUIDE ASSY
8	S8-063-020-230		CASSETE GUIDE BOSS
9	S8-065-035-020		LOADING LEVER KASIME
10	S8-063-033-050		LOADING PLATE L ASS'Y
11	S8-065-033-050		LOADING PLATE R ASS'Y
12	S8-065-033-030		L BLOCK L ASS'Y
13	S8-065-033-040		L BLOCK R ASS'Y
14	S8-063-030-090		ROLLER POST
15	S8-065-030-040		LOADING GEAR
16	S8-065-030-050		L GEAR PLATE
17	S8-065-030-110		L GEAR PLATE COLLOR
18	S8-065-030-100		L GEAR PLATE SPRING
19	S8-065-030-010		LD CATCHER
20	S8-065-033-060		HEAD CLEANING ASS'Y
21	S8-063-030-290		CLEANING ROLLER ASS'Y
22	S8-065-130-050		REC LEVER SPRING
23	S8-065-043-020		ACE HEAD BASE ASS'Y
24	S6-204-150-200		ACE HEAD HVMZA1220
25	S8-000-060-040		AZIMUTH SPRING
26	S8-065-043-010		FE HEAD BASE ASS'Y
27	S6-209-150-040		VTR1X2ERS11107
28	S8-063-043-060		IMPEDANCE ROLLER ASS'Y
29	S8-065-040-020		HEAD BASE SPRING
30	S8-065-053-010		T REEL ASS'Y
31	S8-065-053-020		S REEL ASS'Y
32	S8-065-063-010		PINCH ROLLER ARM ASS'Y
33	S6-003-030-600		CAPSTAN MOTOR (F2QTB10)
34	S8-063-080-040		BT ARM METAL
35	S8-065-073-010		C BRAKE ASS'Y
36	S8-065-070-020		C BRAKE SPRING
37	S8-065-170-040		RG LEVER
38	S8-065-080-020		BT SPRING
39	S8-065-080-060		BT LEVER
40	S8-065-083-020		TENSION ARM SEMI ASS'Y
41	S8-065-083-030		BT BAND ASS'Y
42	S8-065-093-030		SUB PLATE ASS'Y
43	S8-065-093-040		RF CLUTCH ASS'Y
44	S8-065-100-070		TS BRAKE SPRING
45	S8-065-100-090		SS BRAKE SPRING
46	S8-065-100-100		TS BRAKE LEVER
47	S8-065-093-020		CLUTCH ASS'Y
48	S8-065-093-010		CLUTCH PULLY ASS'Y
49	S8-065-090-200		DRIVE BELT
50	S8-065-103-010		T MAIN BRAKE ASS'Y
51	S8-065-103-020		S MAIN BRAKE ASS'Y
52	S8-065-103-030		T SOFT BRAKE ASS'Y
53	S8-065-175-010		RG ARM KASIME
54	S8-065-170-030		RG ADJUST NUT
55	S8-065-100-050		MAIN BRAKE SPRING
56	S8-065-100-080		S SOFT BRAKE ARM
57	S8-065-110-140		REVERSE LEVER PIN
58	S8-065-113-020		CAM GEAR ASS'Y
59	S8-065-113-010		CAM PLATE ASS'Y
60	S8-065-113-030		LOADING MOTOR ASS'Y
61	S8-065-110-110		MOTOR HOLDER
62	S8-065-110-040		M GEAR
63	S8-065-113-050		M GEAR PLATE ASS'Y
64	S8-065-110-070		M RELAY GEAR
65	S8-065-110-080		M SLIDE PLATE
66	S8-065-110-170		R LEVER SPRING PLATE
67	S8-065-153-010		FD GEAR CASE ASS'Y
68	S8-065-150-090		FD SLIDE PLATE
69	S8-065-150-100		FD SLIDE PLATE SP
70	S8-065-163-010		FRONT LOADING ASS'Y
71	S8-065-130-060		IN SWITCH SLIDER
72	S8-065-130-070		IN SW SLIDER SPRING
73	S8-065-130-040		REC SWITCH LEVER
74	S8-065-020-210		TAPE PROTECT
75	S8-065-023-030		TAPE GUIDE BASE ASSY
76	S8-065-083-010		TENSION ARM ASS'Y
77	S8-065-093-070		GEAR PLATE ASS'Y
78	S8-065-110-030		CAM DRIVE GEAR
79	S8-065-110-100		WORM WHEEL
80	S8-065-110-130		REVERSE LEVER
81	S8-065-110-150		OPEN ANGLE
82	S8-065-110-160		AH ADJUST NUT
83	S8-065-060-040		PINCH ROLLER SPRING
84	S8-065-060-050		PINCH ROLLER
85	S8-065-065-010		PINCH ROLLER KASIME
86	S8-065-013-010		V OUT PWB ASSY<227>
86	S8-065-013-110		V OUT PWB ASSY<117,118,120>
86	S8-065-013-020		V OUT PWB ASSY<119>
87	S6-807-020-450		FPC-6 CONNECTOR C<119>
87	S6-807-020-430		FPC4 CONNECTOR (C)<227>
88	S8-065-133-020		BASE PWB ASSY(WIHT MODE SW)
89	S8-065-130-110		DM LEAD PWB
90	S8-065-130-120		CM LEAD PWB
A	S9-F22-260-810		ADJUST SCREW 2.6X8
B	S9-B01-260-410		SCREW,(BIND)2.6-4
C	S9-P02-260-510		TAMS SCREW 2.6X5
D	S9-W02-300-500		POLTSIDER WASHER(C) 1.6X3.8X0
E	S9-P09-300-610		SCREW (SHARP-POINTED) 3X6
F	S9-W02-501-000		POLYSLIDER WASHER(C)2.1X5X0.5
G	S9-P04-300-510		TAPPING SCREW 3.0X5
H	S9-P04-260-410		TAPPING SCREW 2.6X4
I	S9-P12-260-640		TAMS SCREW (TAPPING) S 2.6X6
J	S9-C04-265-030		CAMERA SCREW(TAPPING)S 2.6X5
K	S9-C17-202-330		CAMERA SCREW(FLAT TIP) 2.0X2.
L	S9-B03-260-510		TAPPING SCREW(BIND) 2.6X5
M	S9-W03-301-100		NYLON WASHER 2.5X5X0.3<117,118,120>
N	S9-P04-260-510		TAPPING SCREW 2.6X5
P	S9-W06-501-100		HL WASHER(CUT)4.5X7X0.5
Q	S9-W06-301-000		HLW(C) 2.6X6X0.3
R	S9-W06-300-400		HL WASHER(CUT) 1.55X4.5X0.3
S	S9-P01-260-720		SCREW 2.6X7
T	S9-W02-300-600		POLYSLIDER WASHER(C) 2.1X5X0.
U	S9-W02-501-100		POLYSLIDER WASHER(C)2.6X6X0.5
V	S8-000-060-260		AZIMATH SPRING SCREW
W	S9-P07-260-610		TAPPING SCREW P 2.6 X 6

EXPLODED VIEW



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REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
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